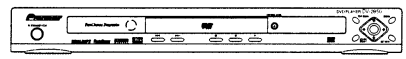
Pioneer sound.vision.soul

PION-06264

Service Manual



DV-2850-S

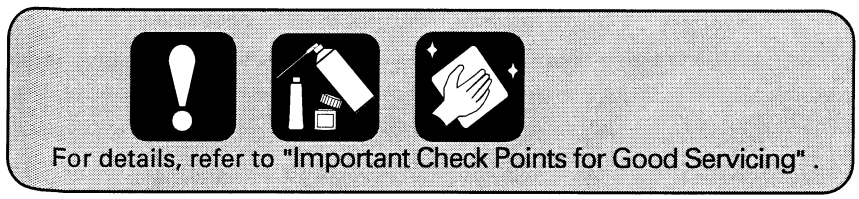
ORDER NO.
RRV3123

DVD PLAYER

DV-2850-S

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Region No.	Remarks
DV-2850-S	WYXTL	AC220-240V	2	
DV-2850-S	WVXTL	AC220-240V	2	



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T-ZZR MAR. 2005

SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING !

THE AEL (ACCESSIBLE EMISSION LEVEL) OF THE LASER POWER OUTPUT IS LESS THAN CLASS 1 BUT THE LASER COMPONENT IS CAPABLE OF EMITTING RADIATION EXCEEDING THE LIMIT FOR CLASS 1.
A SPECIALLY INSTRUCTED PERSON SHOULD DO SERVICING OPERATION OF THE APPARATUS.

LASER DIODE CHARACTERISTICS

FOR DVD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 650 nm
FOR CD : MAXIMUM OUTPUT POWER : 5 mW
WAVELENGTH : 780 nm

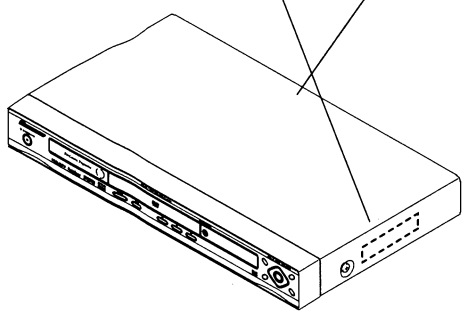
LABEL CHECK

Location: inside of the unit

CAUTION	: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.	7260000356 SH
VORSICHT	: SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG,WENNABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN !	
ADVARSEL	: SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING UNDGÅ UDSÆTTELSE FOR STRÅLING.	
VARNING	: SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.	
VARO!	: AVATTAESSA ALTISTUT NÄKYVÄ JA NÄKYMÄTTÖMÄLLE LASERSATEIL YLLE. ÄLÄ KATSO SÄTEESEN.	
CUIDADO	: RADIACIÓN LÁSER VISIBLE E INVISIBLE AL ESTAR ABIERTO. EVITAR EXPOSICIÓN AL RAYO.	

CLASS 1
LASER PRODUCT

(Printed on the Rear Panel)



Additional Laser Caution

1.
- Laser diode is driving with Q2303,Q2305(650nm LD) and Q2302, Q2304(780nm LD)on the DVD MT PCB Assy.
Therefore, when short-circuit between the emitter and collector of these transistors or the base voltage is supplied for transistors turn on, the laser oscillates. (failure mode)
- In the test mode ∗ , there is the mode that the laser oscillates except for the disc judgment and playback. LD ON mode in the test mode oscillates with the laser forcibly.

2. When the cover is open, close viewing through the objective lens with the naked eye will cause exposure to the laser beam.

∗ : See page 53.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

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1. SPECIFICATIONS

Specifications

General

System ..... DVD player
Power requirements .. AC 220–240 V, 50/60 Hz
Power consumption ..... 7 W
Power consumption (standby) ..... 0.75 W
Weight 1.7kg

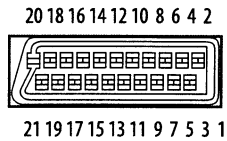
Dimensions:

DV-2850 . . . 420 (W) x 49.5 (H) x 213.6 (D) mm

Operating temperature ..... +5°C to +35°C
Operating humidity ..... 5% to 85%
(no condensation)

AV connector output

AV Connector (21-pin connector assignment)
AV connector output ..... 21-pin connector
This connector provides the video and audio signals for connection to a compatible colour TV or monitor.



PIN no.
1. ..... Audio 2/R out
3. ..... Audio 1/L out
4. ..... GND
7. ..... B out
8. ..... Status
11. ..... G out
15. ..... R out
17. ..... GND
19. ..... Video out
21. ..... GND

Component video output

Y (luminance) - Output level . . . 1 Vp-p (75 Ω)
P_B (color) - Output level .... 0.7 Vp-p (75Ω)
P_R (color) - Output level ..... 0.7 Vp-p (75 Ω)
Jack ..... RCA

S-video output

Y (luminance) - Output level . . . 1 Vp-p (75Ω)
C (color) - Output level .... 286 mVp-p (75 Ω)
Jack ..... S-video

Video output

Output level ..... 1 Vp-p (75Ω)
Jack ..... RCA

Audio output (1 stereo pair)

Output level ..... During audio output
200 mVrms (1 kHz, –20 dB)
Number of channels 2
Jacks ..... RCA

Digital audio characteristics

Frequency response ..... 4 Hz to 44 kHz
(DVD fs: 96 kHz)

S/N ratio ..... 115 dB
Dynamic range ..... 101 dB
Total harmonic distortion ..... 0.0023 %
Wow and flutter ..... Limit of measurement
(±0.001% W. PEAK) or lower

Digital output

Coaxial digital output ..... RCAjack

Accessories

Audio/video cable. 1
Power cable. 1
Remote control. 1
AA/R6P dry cell batteries 2
Warranty card. 1
Operating Instructions

The specifications and design of this product are subject to change without notice, due to improvement.

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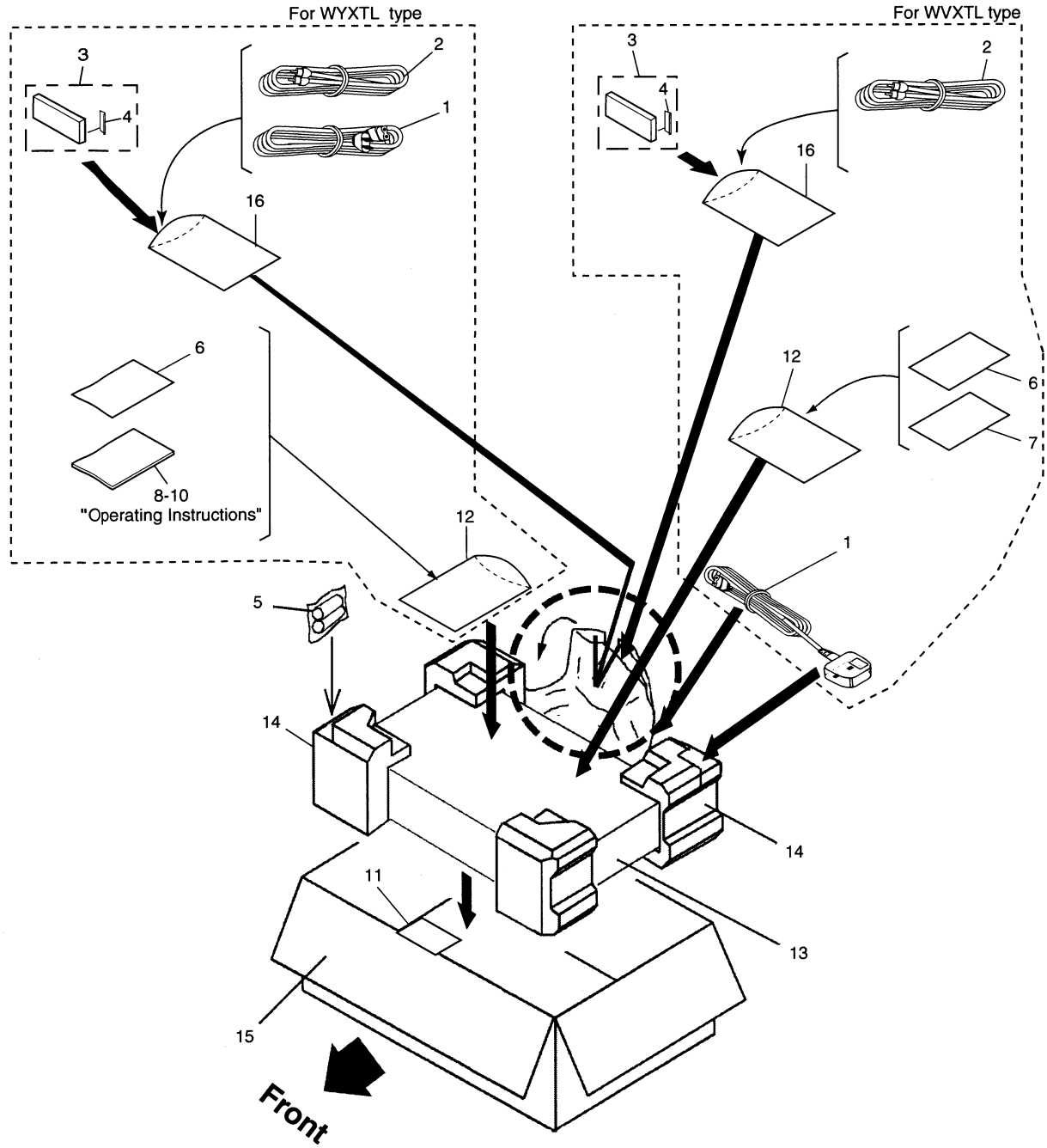
2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING SECTION



PACKING SECTION parts List

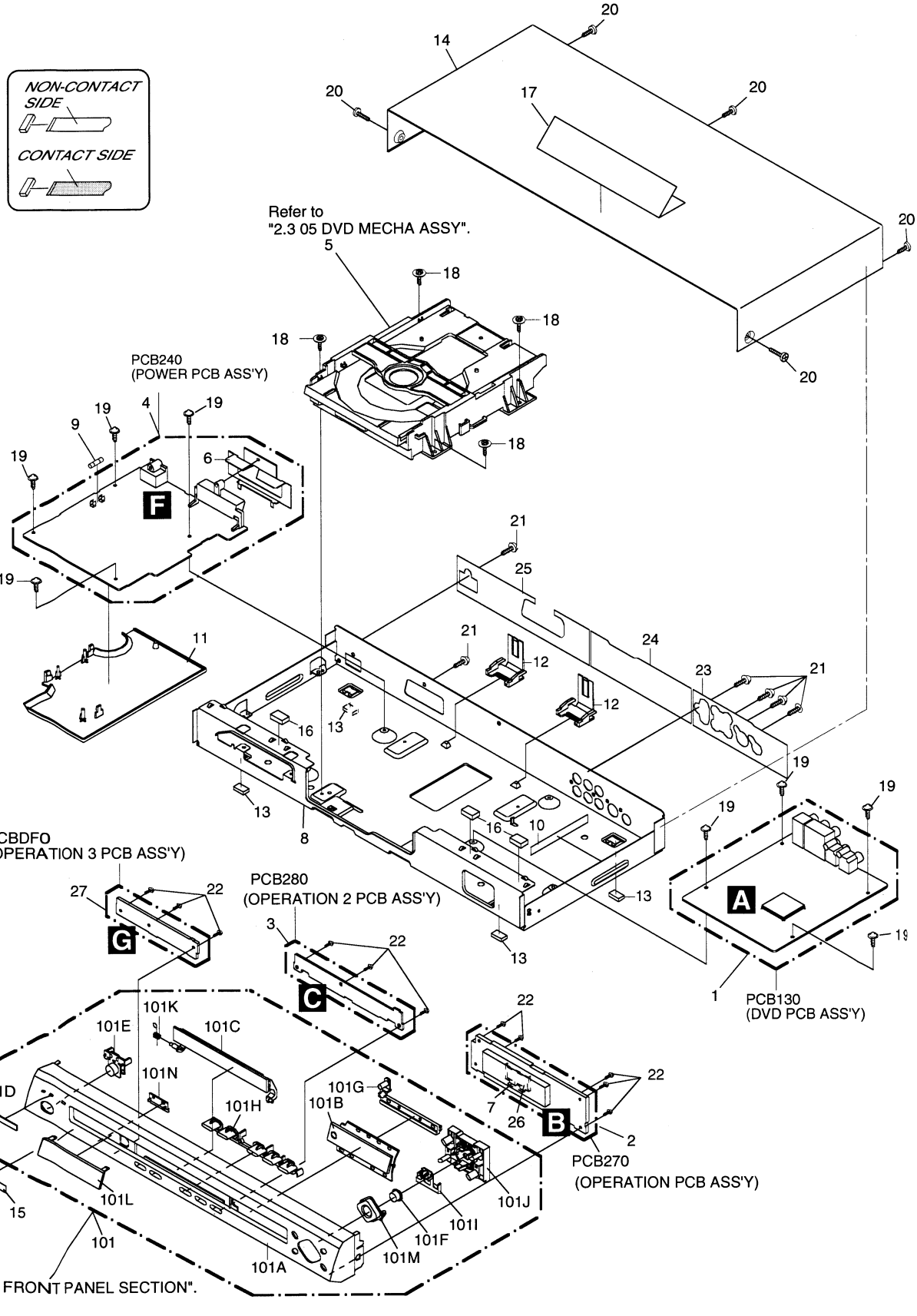
Mark	No.	Description	Part No.
⚠	1	Cord Set AC	See Contrast table (2)
	2	Cord, RCA Pin	06CPBA2006
	3	Remote Control	VXX2914
	4	Battery Cover	VNK4998
NSP	5	Battery,Mangan (AR, R6P)	141L003010
NSP	6	Guarantee Card	J2G50202A
	7	Operating Instructions(English)	See Contrast table (2)
	8	Operating Instructions	See Contrast table (2)
	9	Operating Instructions	See Contrast table (2)
	10	Operating Instructions	See Contrast table (2)
	11	Package, Pad	792WHA0604
	12	Polyethylene Bag	See Contrast table (2)
	13	Gift Sheet	791WHA0108
	14	Package	See Contrast table (2)
	15	Gift Box	See Contrast table (2)
NSP	16	Poly. Bag	791WHAA040

(2) CONTRAST TABLE

DV-2850-S/WVXTL and DV-2850-S/WYXTL are constructed the same except for the following :

Mark	No.	Symbol and Description	DV-2850-S/WVXTL	DV-2850-S/WYXTL
⚠	1	Cord Set AC	1206138802	1206158802
	7	Operating Instructions (English)	J2G50101B	Not used
	8	Operating Instructions (English, Italian)	Not used	J2G50321A
	9	Operating Instructions (German, French)	Not used	J2G50322A
	10	Operating Instructions (Spanish, Duch)	Not used	J2G50323A
	12	Polyethylene Bag	JB5KD200	JB5K400
	14	Package	792WHA0597	792WHA0588
	15	Gift Box	793WCD1643	793WCDC717

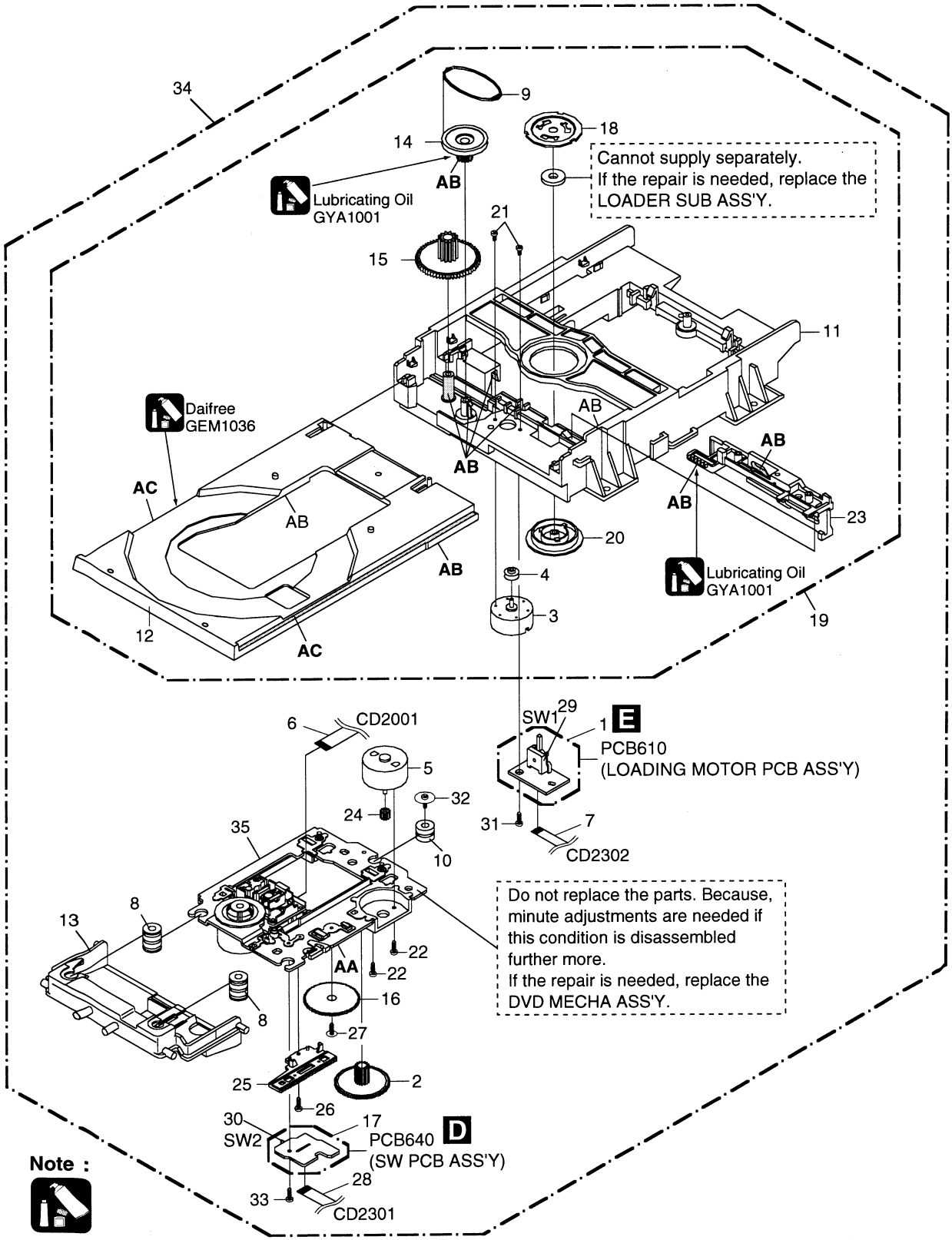
2.2 EXTERIOR SECTION


NON-CONTACT SIDE
CONTACT SIDE
Refer to "2.3 05 DVD MECHA ASSY".
PCB240 (POWER PCB ASS'Y)
PCBDFO (OPERATION 3 PCB ASS'Y)
PCB280 (OPERATION 2 PCB ASS'Y)
PCB130 (DVD PCB ASS'Y)
PCB270 (OPERATION PCB ASS'Y)
" FRONT PANEL SECTION".

EXTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	DVD MT PCB Assy	A2G502A130
	2	OPERATION PCB Assy	A2G501A270
	3	OPERATION 2 PCB Assy	A2G501A280
⚠	4	POWER PCB Assy	A2G502A240
⚠	5	DVD MECHA ASSY	A2F101A650
	6	Shield,21Pin	761WSA0237
	7	PLATE, FIP	752WSA0466
	8	Plate,Bottom	702WSA0243
⚠	9	Fuse (F501 : 1.6A)	080NT1R604
	10	Sheet,Caution	7260000356
	11	Plate,Cover Power	755WPA0046
	12	Holder,FFC	761WPA0396
	13	Cushion,Leg	VEB1349
	14	Cabinet,Top	702WSB0114
NSP	15	POP Label	7236310006
	16	Cushion (15x20x16)	8965TS1015
NSP	17	POP Label	7236310019
	18	Screw,Tap Tite(S)Bind Wash.	816423063U
	19	Screw,Tap Tite(S) (3x5.5)	8107D3055U
	20	Screw,Tap Tite(B) (3x6.0)	8109K3060U
	21	Screw,Tap Tite(B)Pan (3x6)	810913060U
	22	Screw,Tap Tite(P)Flat (2.6x10)	8110326A0U
	23	Sheet,Jack 1	7226310057
	24	Sheet,Jack 2	7226310073
	25	Sheet,Jack 3	7226310063
	26	Double,Face-Tape	7290000156
	27	OPERATION 3 PCB Assy	A2G501ADF0
	101	Front Cabi Assy	7A7010108A
NSP	101A	Cabinet,Front	701WPJ1346
NSP	101B	Plate,Display	711WPA0226
	101C	Flap,DVD	712WPD0181
	101D	Badge,Brand	7236310014
NSP	101E	Button, Power	738WPB0052
NSP	101F	Button,Cap 1	738WPJ0054
NSP	101G	Button,Frame 3	738WPA0134
NSP	101H	Button,Frame 4	738WPB0053
NSP	101I	Button,Frame 1	738WPA0132
NSP	101J	Button,Frame 2	738WPB0056
	101K	Spring,Flap-DVD	743WKA0052
	101L	Plate, Cover	711WPA0235
NSP	101M	Button, Cap 2	738WPJ0055
NSP	101N	Holder, Tag	711WPA0370

2.3 05 DVD MECHA SECTION



Note :

CLASS	PART NO.	PART NAME	MARK
GREASE	GEM1018	G-478B	**AA**
	GYA1001	PN-397	**AB**
	GEM1036	ME-913A	**AC**

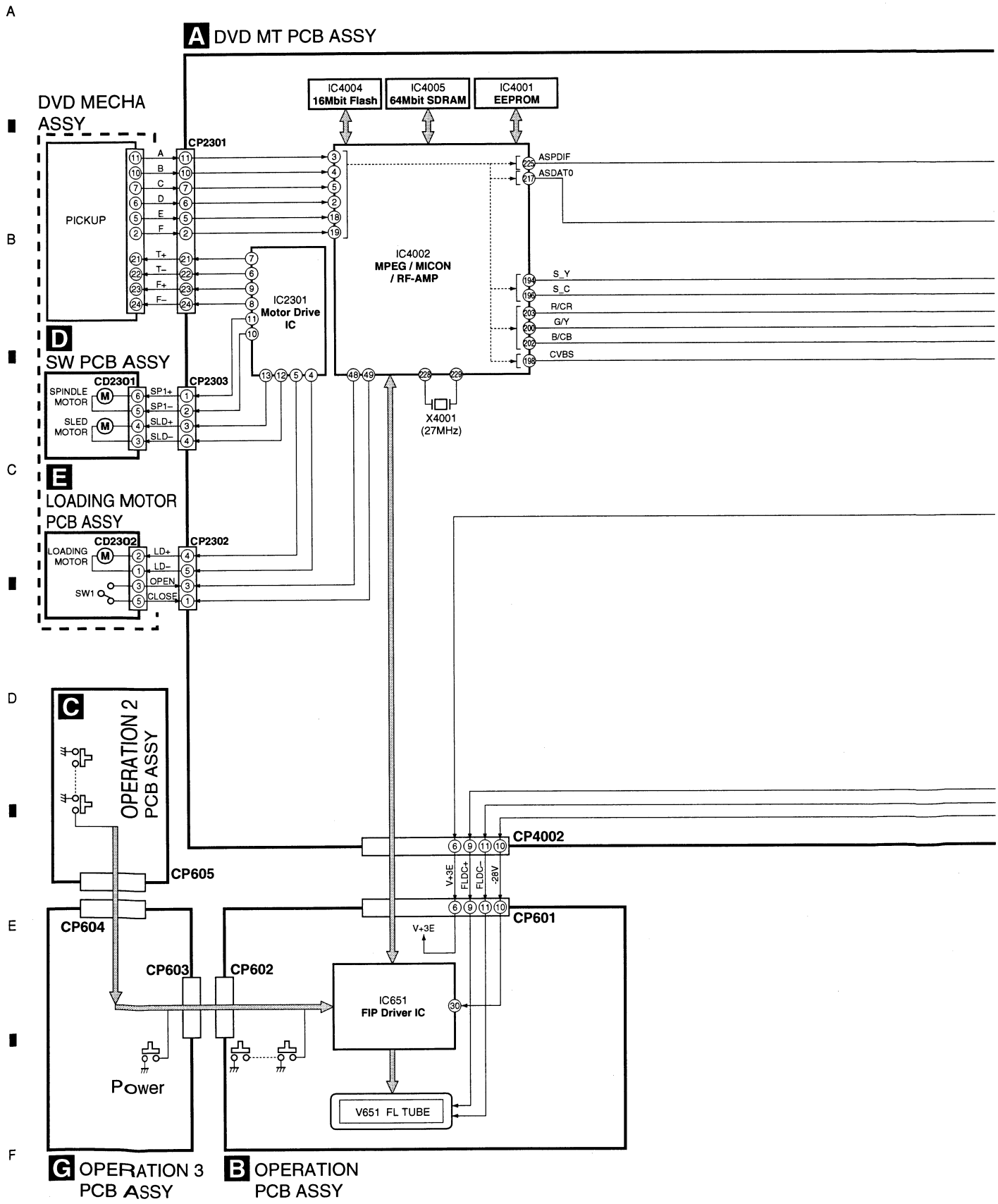
NOTE: Applying positions AA, AB and AC for the grease are displayed for this section. Check if the correct grease is applied for each position.

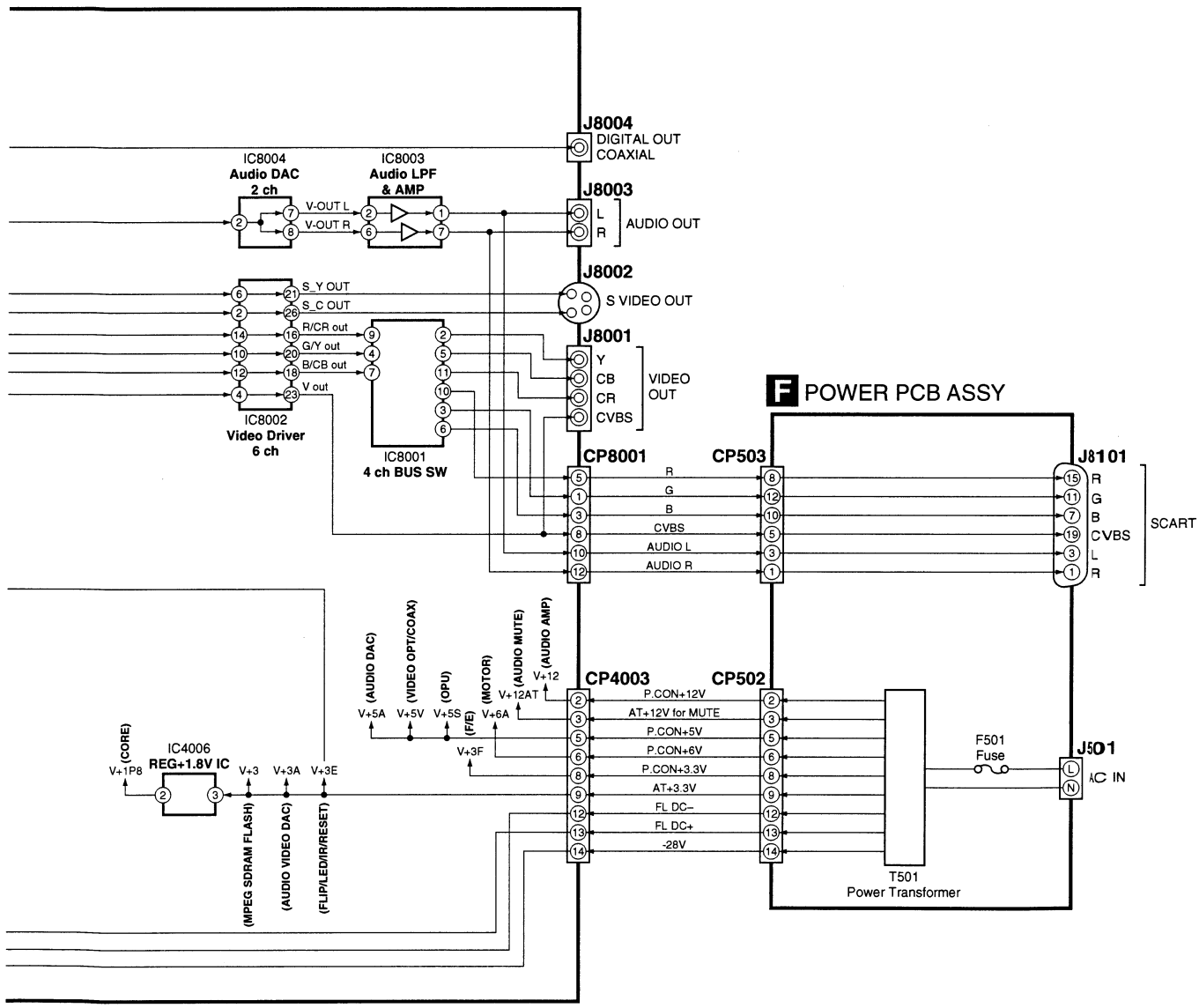
05 DVD MECHA SECTION parts List

Mark	No.	Description	Part No.
	1	Loading Motor PCB Assy	A2F101A610
	2	Gear,Middle	92P100117A
⚠	3	Loading Motor	1515S98004
	4	Pulley,Motor	92P100097A
⚠	5	FEED Motor	1515S98004
	6	Cord Jumper (24P)(CD2001)	122H0O2305
	7	Cord Jumper (CD2302)	122H051602
	8	Insulator (F)	92P200013A
	9	Belt,Loading	92P200015A
	10	Insulator (R)	92P200016A
	11	Frame,main	92P100119A
	12	Tray (B)	92P100127A
	13	Holder ,Traverse	92P100125A
	14	Gear,Pulley	92P100123A
	15	Gear,Main	92P100124A
	16	Gear,Feed	92P100116A
	17	SW PCB Assy (PCB640)	A2F101A640
	18	Plate,Clamper	92P000023A
	19	Loader SUB Assy	92AAA0019A
	20	Clamper	92P100122A
	21	Screw,Pan (M1.7x3 P3)	814011730U
	22	Screw,Pan (M1.7x2.3 P3)	814011723U
	23	Rack,Loading	92P100121A
	24	Gear,Motor	92P100088A
	25	Feed Rack Assy	92AAA0017A
	26	Screw,T-Tite(B) (M1.7x5.0 P3)	813381750U
	27	Screw,Gear Feed	92P700007A
	28	Cord Jumper (CD2301)	122H061605
	29	Switch (SW1)	0515S32003
	30	Push Switch (SW2)	0500101036
	31	Screw,Tap Tite(P) (2.6x8)	811022680U
	32	Sems.Tap Tite(P) (2x8)	816112080U
	33	Screw (Bind 2x8)	811022080U
⚠	34	DVD MECHA ASSY	A2F101A650
NSP	35	Traverse SUB ASSY	92AAA0016A

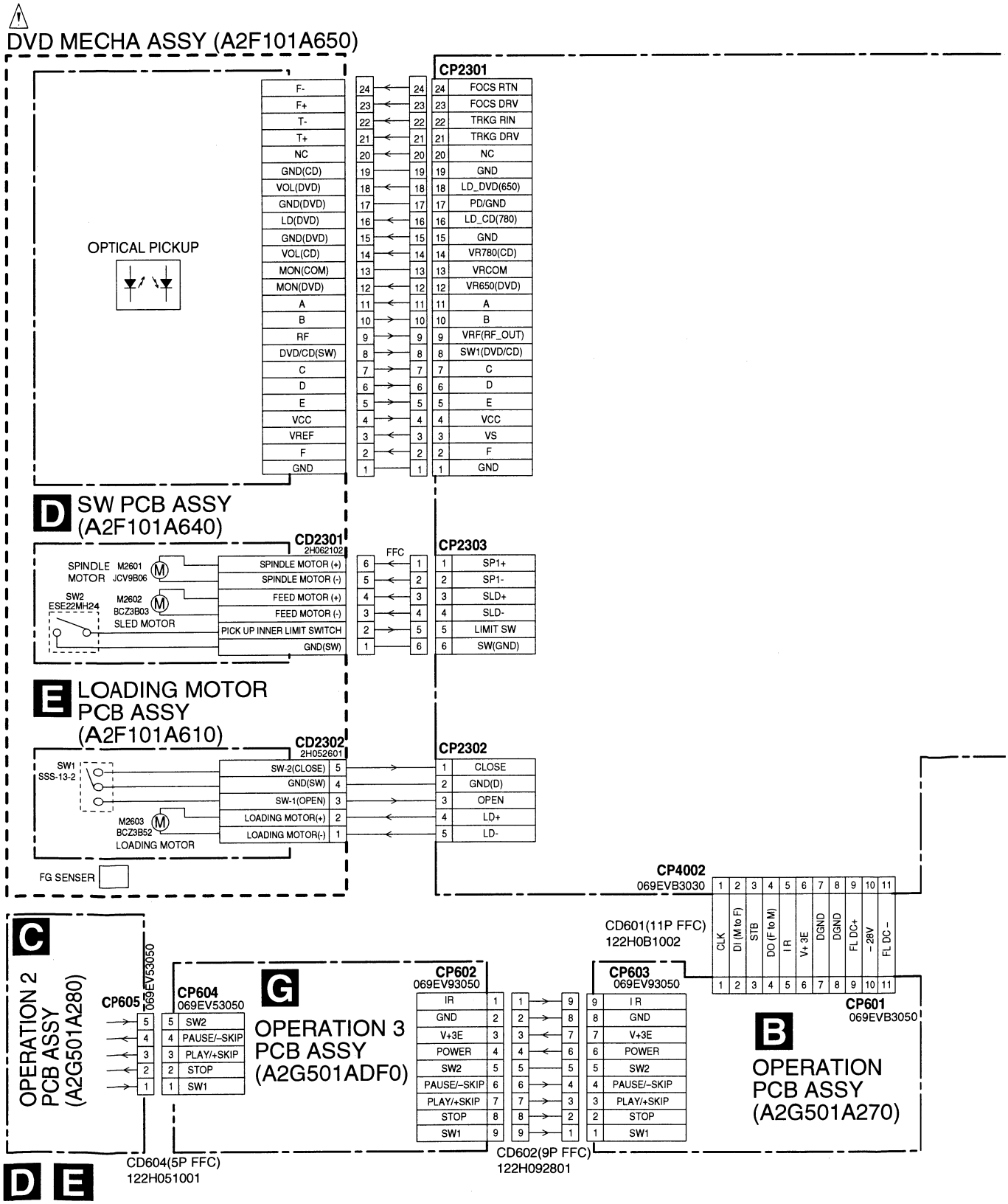
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

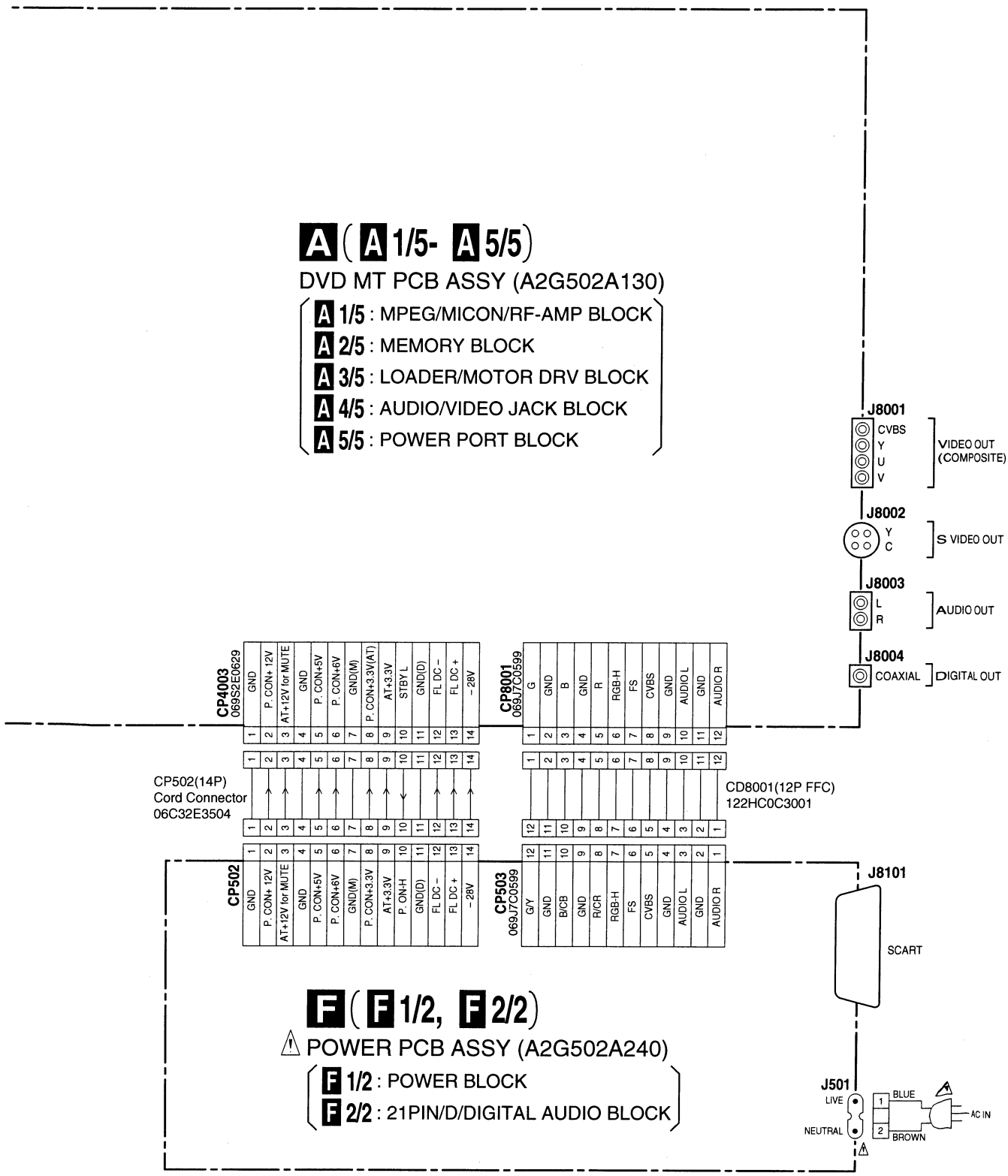



J8004
DIGITAL OUT
COAXIAL
IC8004
Audio DAC
2 ch
IC8003
Audio LPF
& AMP
V-OUT L
V-OUT R
J8003
L
R
AUDIO OUT
J8002
S VIDEO OUT
S_Y OUT
S_C OUT
R/CR out
G/Y out
B/CB out
V out
J8001
Y
CB
CR
CVBS
VIDEO
OUT
IC8002
Video Driver
6 ch
IC8001
4 ch BUS SW
F POWER PCB ASSY
CP8001
CP503
J8101
R
G
B
CVBS
AUDIO L
AUDIO R
SCART
(AUDIO DAC)
(VIDEO OPT/COAX)
(OPU)
(MOTOR)
(AUDIO MUTE)
(AUDIO AMP)
V+12
V+12AT
V+5A
V+5V
V+5S
(F/E)
V+6A
V+3F
CP4003
CP502
P.CON+12V
AT+12V for MUTE
P.CON+5V
P.CON+6V
P.CON+3.3V
AT+3.3V
FL DC–
FL DC+
-28V
F501
Fuse
J501
AC IN
T501
Power Transformer
(CORE)
V+1P8
IC4006
REG+1.8V IC
V+3
V+3A
V+3E
(MPEG SDRAM FLASH)
(AUDIO VIDEO DAC)
(FLIP/LED/IR/RESET)

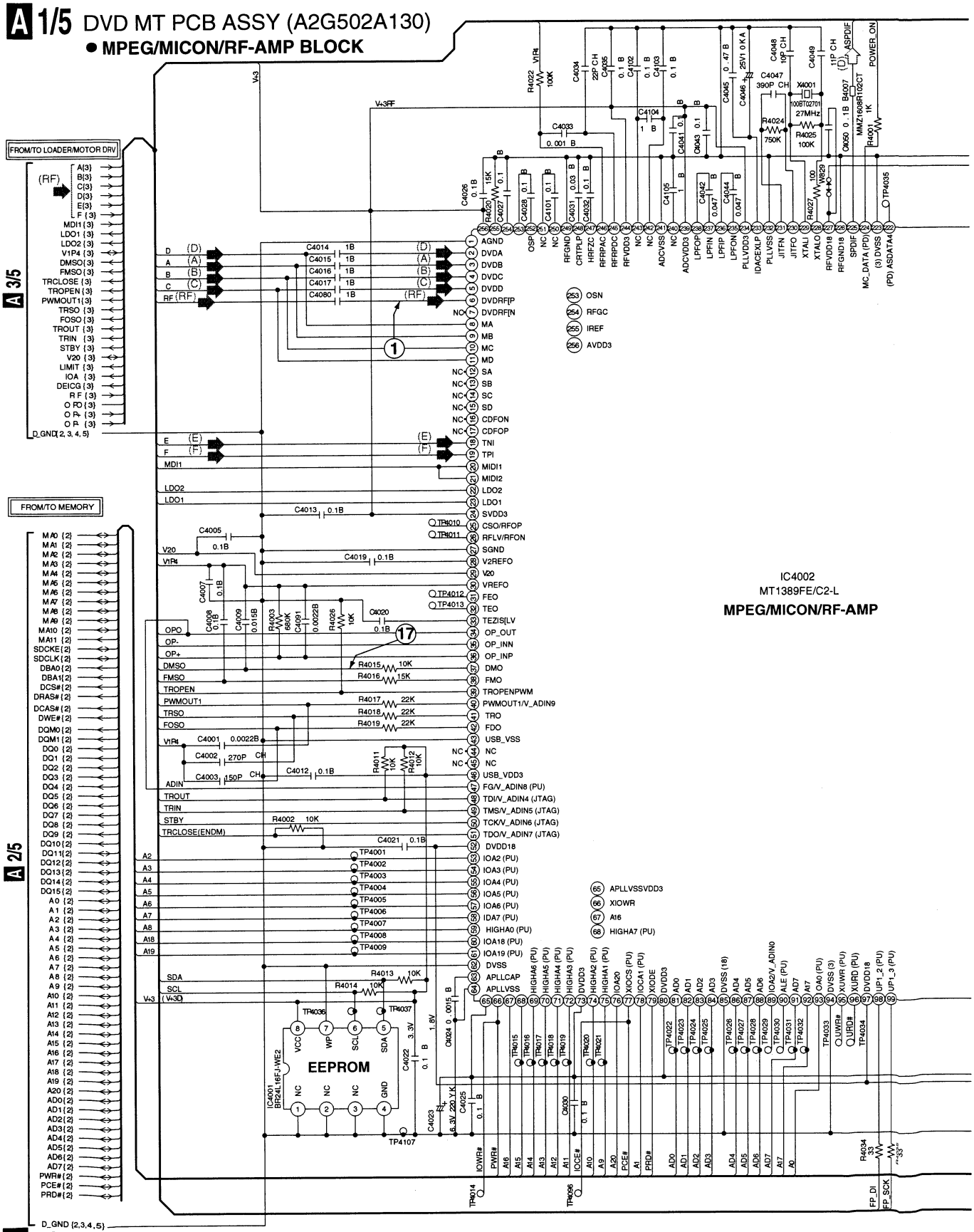
3.2 OVERALL WIRING CONNECTION DIAGRAM

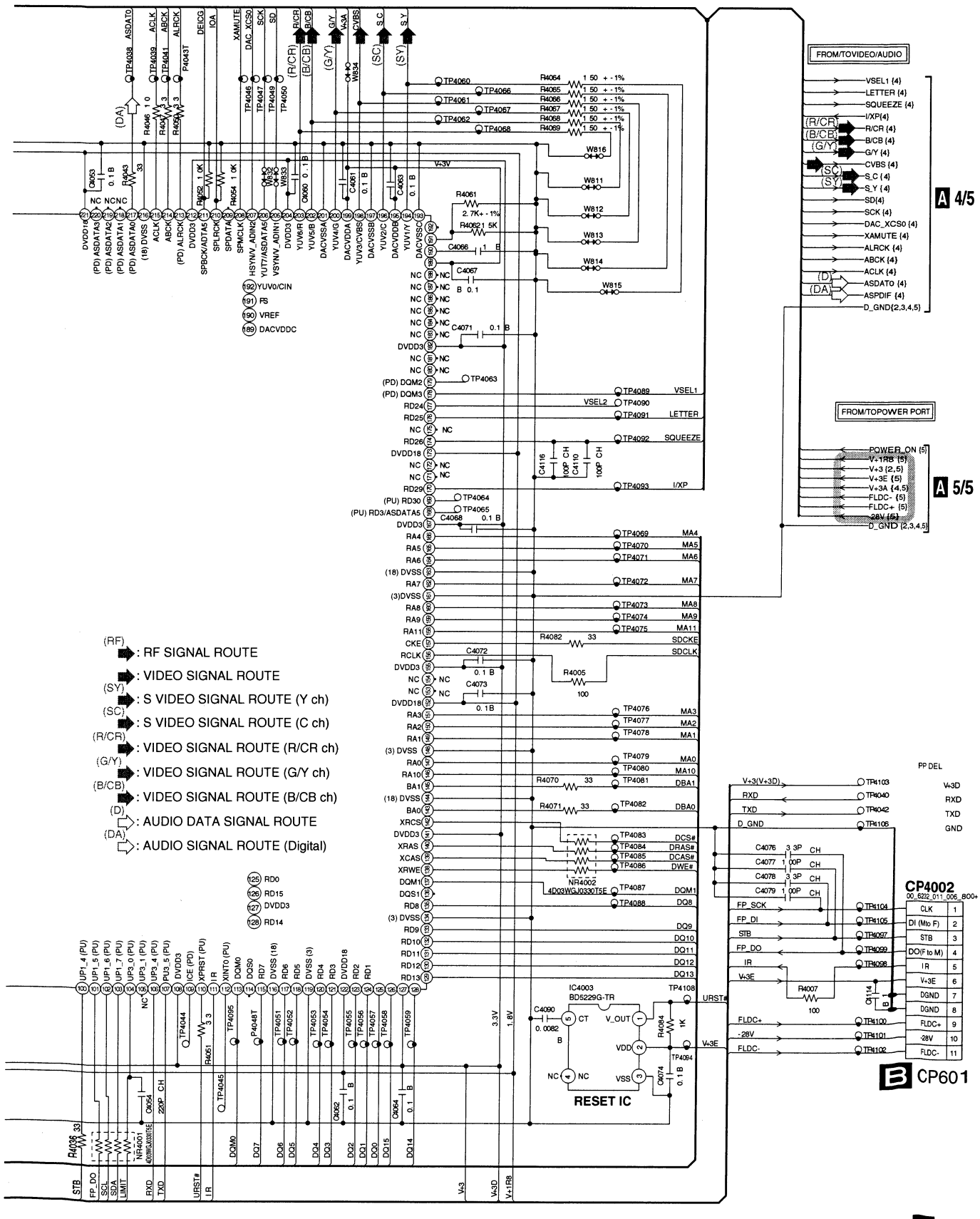


- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- : The power supply is shown with the marked box.



3.3 DVD MT PCB (1/5) ASSY

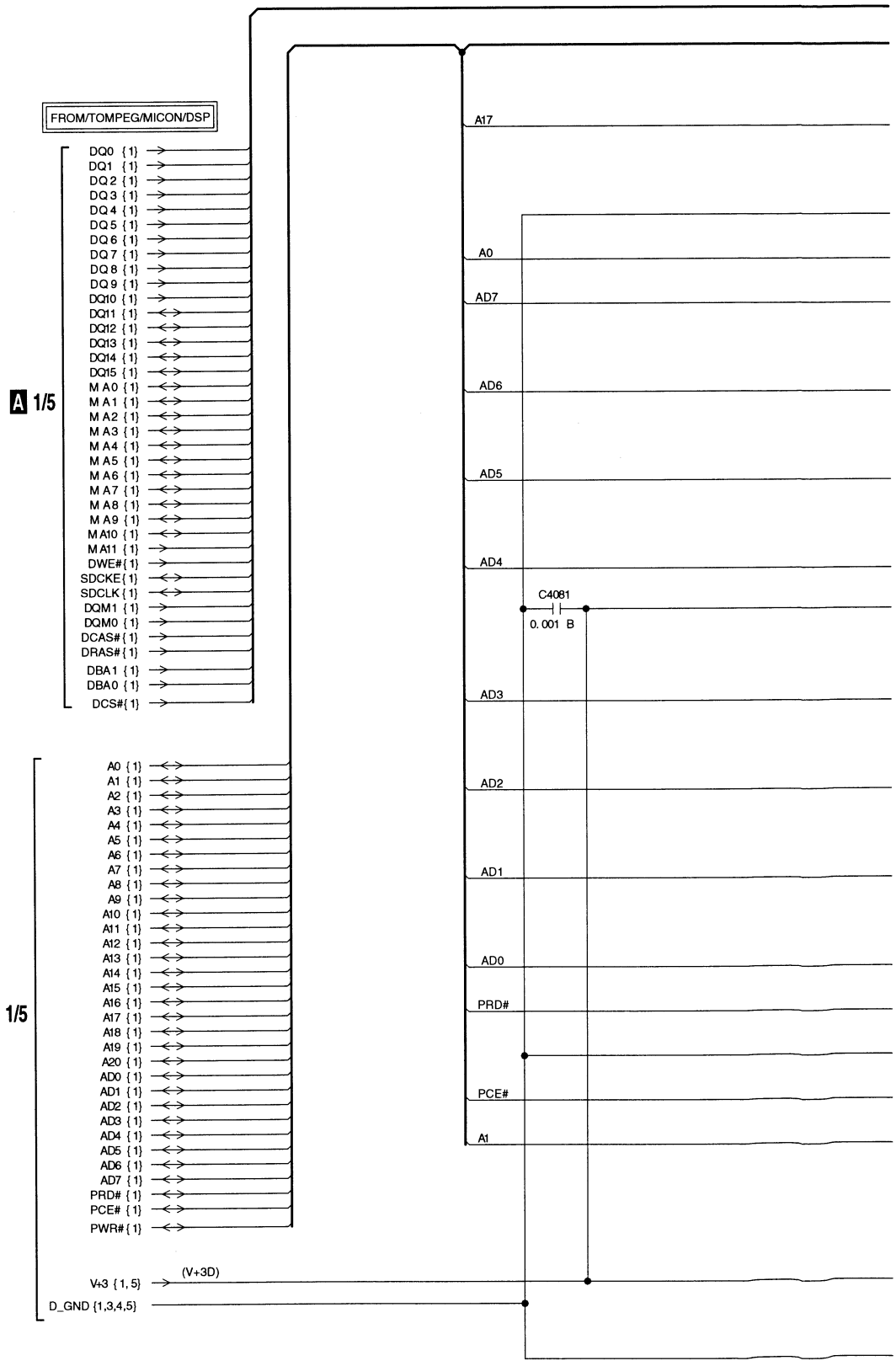



FROM/TOVIDEO/AUDIO
VSEL1 {4}
LETTER {4}
SQUEEZE {4}
I/XP{4}
R/CR {4}
B/CB {4}
G/Y {4}
CVBS {4}
S_C {4}
S_Y {4}
SD{4}
SCK {4}
DAC_XCS0 {4}
XAMUTE {4}
ALRCK {4}
ABCK {4}
ACLK {4}
ASDAT0 {4}
ASPDIF {4}
D_GND{2,3,4,5}
A 4/5
FROM/TOPOWER PORT
POWER_ON {5}
V+1R8 {5}
V+3 {2,5}
V+3E {5}
V+3A {4,5}
FLDC- {5}
FLDC+ {5}
-28V {5}
D_GND {2,3,4,5}
A 5/5
(RF) : RF SIGNAL ROUTE
: VIDEO SIGNAL ROUTE
(SY) : S VIDEO SIGNAL ROUTE (Y ch)
(SC) : S VIDEO SIGNAL ROUTE (C ch)
(R/CR) : VIDEO SIGNAL ROUTE (R/CR ch)
(G/Y) : VIDEO SIGNAL ROUTE (G/Y ch)
(B/CB) : VIDEO SIGNAL ROUTE (B/CB ch)
(D) : AUDIO DATA SIGNAL ROUTE
(DA) : AUDIO SIGNAL ROUTE (Digital)
RESET IC
IC4003
BD5229G-TR
CP4002
CP601
B
A 1/5

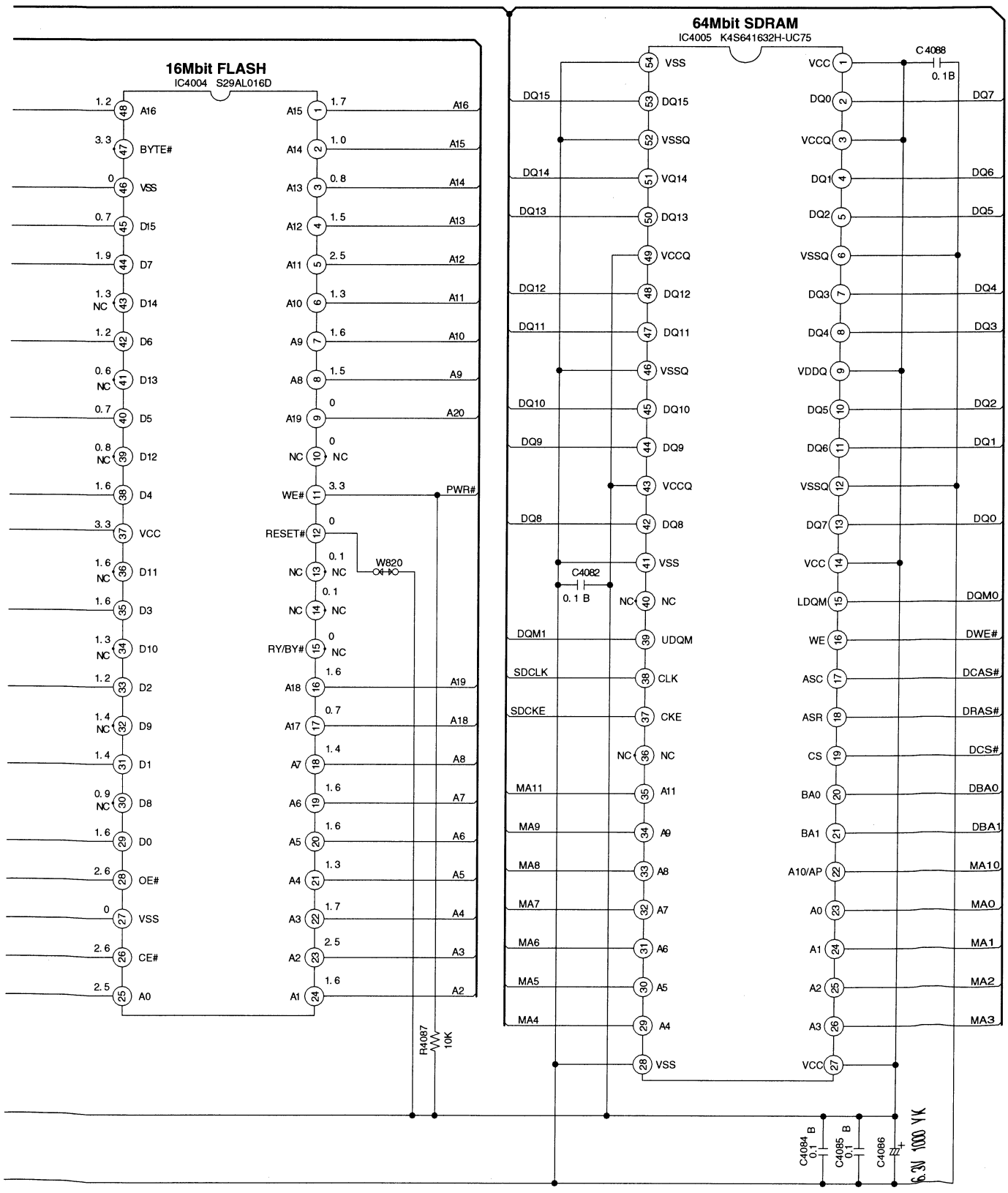
3.4 DVD MT PCB (2/5) ASSY

A 2/5 DVD MT PCB ASSY (A2G502A130)

● MEMORY BLOCK



A 2/5

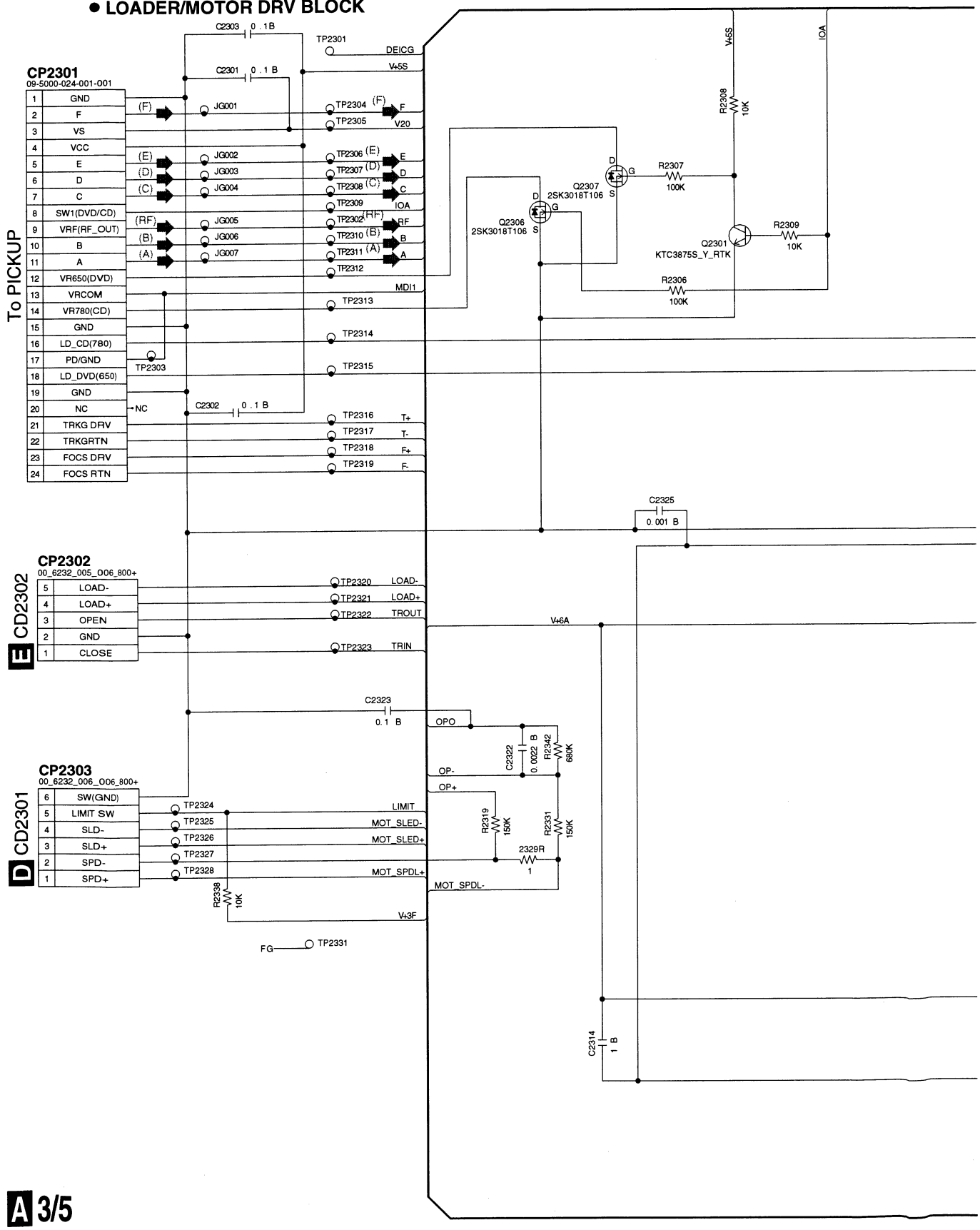

16Mbit FLASH
IC4004 S29AL016D
A16
BYTE#
VSS
D15
D7
D14
D6
D13
D5
D12
D4
VCC
D11
D3
D10
D2
D9
D1
D8
D0
OE#
VSS
CE#
A0
A15
A14
A13
A12
A11
A10
A9
A8
A19
NC
WE#
RESET#
NC
NC
RY/BY#
A18
A17
A7
A6
A5
A4
A3
A2
A1
W820
R4087
10K
64Mbit SDRAM
IC4005 K4S641632H-UC75
VSS
DQ15
VSSQ
DQ14
VQ14
DQ13
VCCQ
DQ12
DQ11
VSSQ
DQ10
DQ9
VCCQ
DQ8
VSS
NC
UDQM
CLK
CKE
NC
A11
A9
A8
A7
A6
A5
A4
VSS
VCC
DQ0
DQ1
VCCQ
DQ2
DQ3
VSSQ
DQ4
DQ5
VDDQ
DQ6
DQ7
VSSQ
VCC
LDQM
WE
ASC
ASR
CS
BA0
BA1
A10/AP
A0
A1
A2
A3
VCC
C4088
0.1B
C4082
0.1 B
C4084
0.1 B
C4085
0.1 B
C4086
6.3V 1000 YK
DQM0
DWE#
DCAS#
DRAS#
DCS#
DBA0
DBA1
MA10
MA0
MA1
MA2
MA3

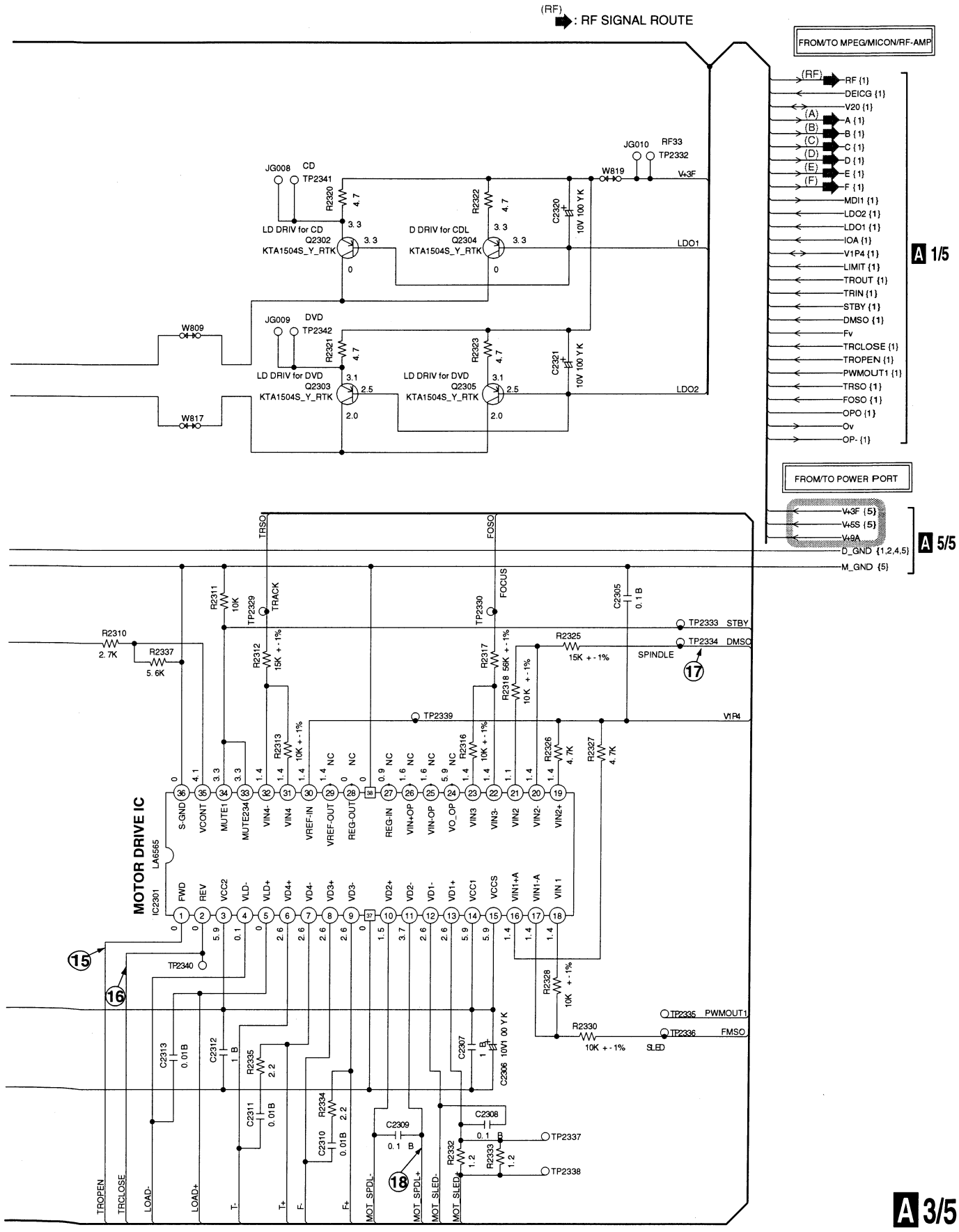
A2/5

3.5 DVD MT PCB (3/5) ASSY

A 3/5 DVD MT PCB ASSY (A2G502A130)

● **LOADER/MOTOR DRV BLOCK**

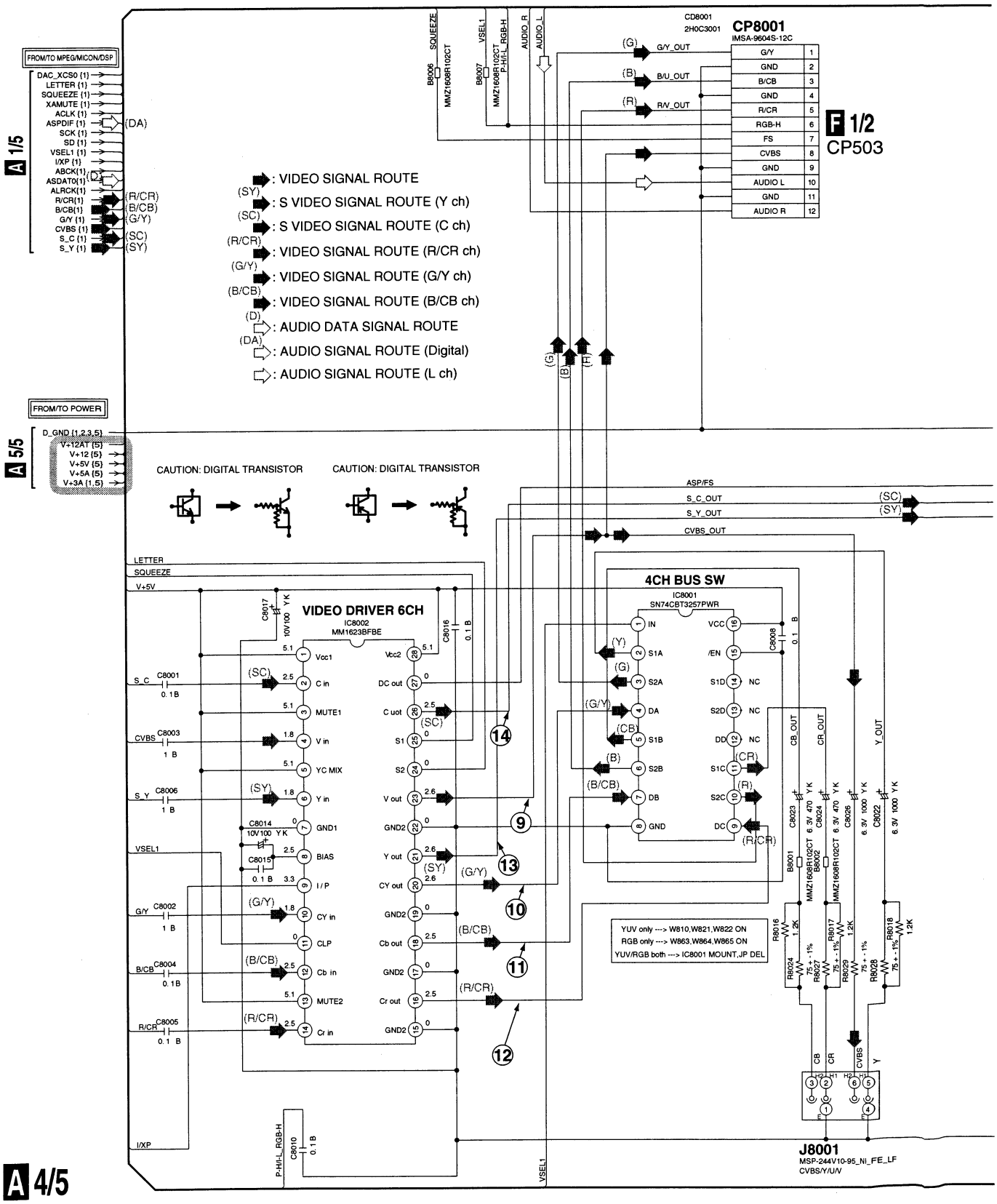



(RF) : RF SIGNAL ROUTE
FROM/TO MPEG/MICON/RF-AMP
(RF) RF {1}
DEICG {1}
V20 {1}
(A) A {1}
(B) B {1}
(C) C {1}
(D) D {1}
(E) E {1}
(F) F {1}
MDI1 {1}
LDO2 {1}
LDO1 {1}
IOA {1}
V1P4 {1}
LIMIT {1}
TROUT {1}
TRIN {1}
STBY {1}
DMSO {1}
Fv
TRCLOSE {1}
TROPEN {1}
PWMOUT1 {1}
TRSO {1}
FOSO {1}
OPO {1}
Ov
OP- {1}
A 1/5
FROM/TO POWER PORT
V+3F {5}
V+5S {5}
V+9A
D_GND {1,2,4,5}
M_GND {5}
A 5/5
JG008 CD TP2341
JG009 DVD TP2342
JG010 RF33 TP2332
W819
W809
W817
V+3F
LDO1
LDO2
R2320 4.7
R2321 4.7
R2322 4.7
R2323 4.7
C2320 10V 100 Y K
C2321 10V 100 Y K
LD DRIV for CD
Q2302 KTA1504S_Y_RTK
D DRIV for CDL
Q2304 KTA1504S_Y_RTK
LD DRIV for DVD
Q2303 KTA1504S_Y_RTK
LD DRIV for DVD
Q2305 KTA1504S_Y_RTK
TRSO
FOSO
R2311 10K
TP2329 TRACK
TP2330 FOCUS
C2305 0.1 B
R2310 2.7K
R2337 5.6K
R2312 15K + - 1%
R2317 56K + - 1%
R2325 15K + - 1%
R2318 10K + - 1%
TP2333 STBY
TP2334 DMSO
SPINDLE
17
TP2339
V1P4
R2313 10K + - 1%
R2316 10K + - 1%
R2326 4.7K
R2327 4.7K
MOTOR DRIVE IC
IC2301 LA6565
S-GND VCONT MUTE1 MUTE234 VIN4- VIN4 VREF-IN VREF-OUT REG-OUT REG-IN VIN+OP VIN-OP VO_OP VIN3 VIN3- VIN2 VIN2- VIN2+
FWD REV VCC2 VLD- VLD+ VD4+ VD4- VD3+ VD3- VD2+ VD2- VD1- VD1+ VCC1 VCCS VIN1+A VIN1-A VIN 1
15
16
TP2340
R2328 10K + - 1%
TP2335 PWMOUT1
TP2336 FMSO
R2330 10K + - 1%
SLED
C2313 0.01 B
C2312 1 B
R2335 2.2
C2307 1 B
C2306 10V1 00 Y K
C2311 0.01 B
R2334 2.2
C2310 0.01 B
C2309 0.1 B
C2308 0.1 B
TP2337
R2332 1.2
R2333 1.2
TP2338
18
TROPEN
TRCLOSE
LOAD-
LOAD+
T-
T+
F-
F+
MOT SPDL-
MOT SPDL+
MOT SLED-
MOT SLED+
A 3/5

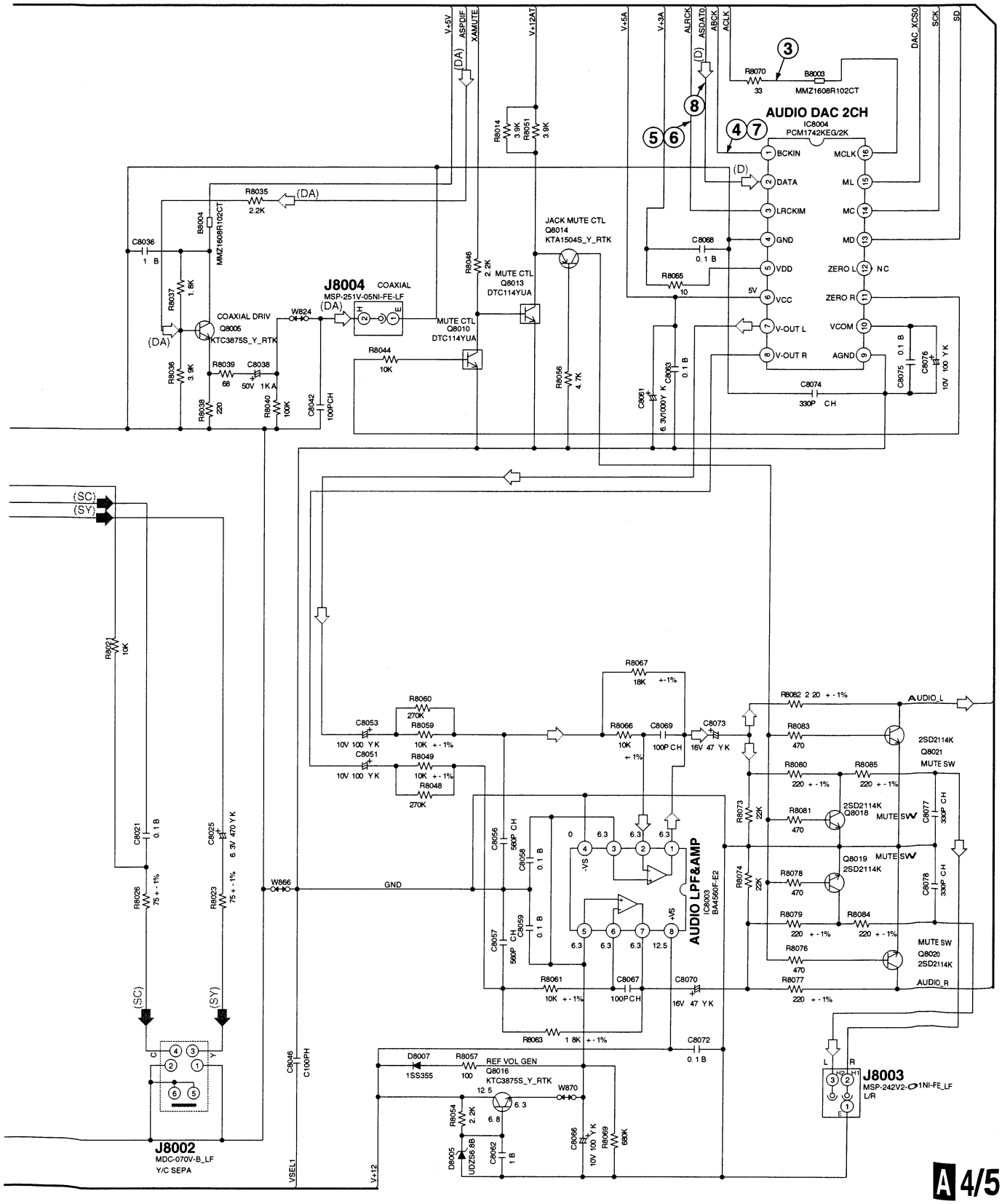
3.6 DVD MT PCB (4/5) ASSY

A 4/5 DVD MT PCB ASSY (A2G502A130)

- **AUDIO/VIDEO JACK BLOCK**



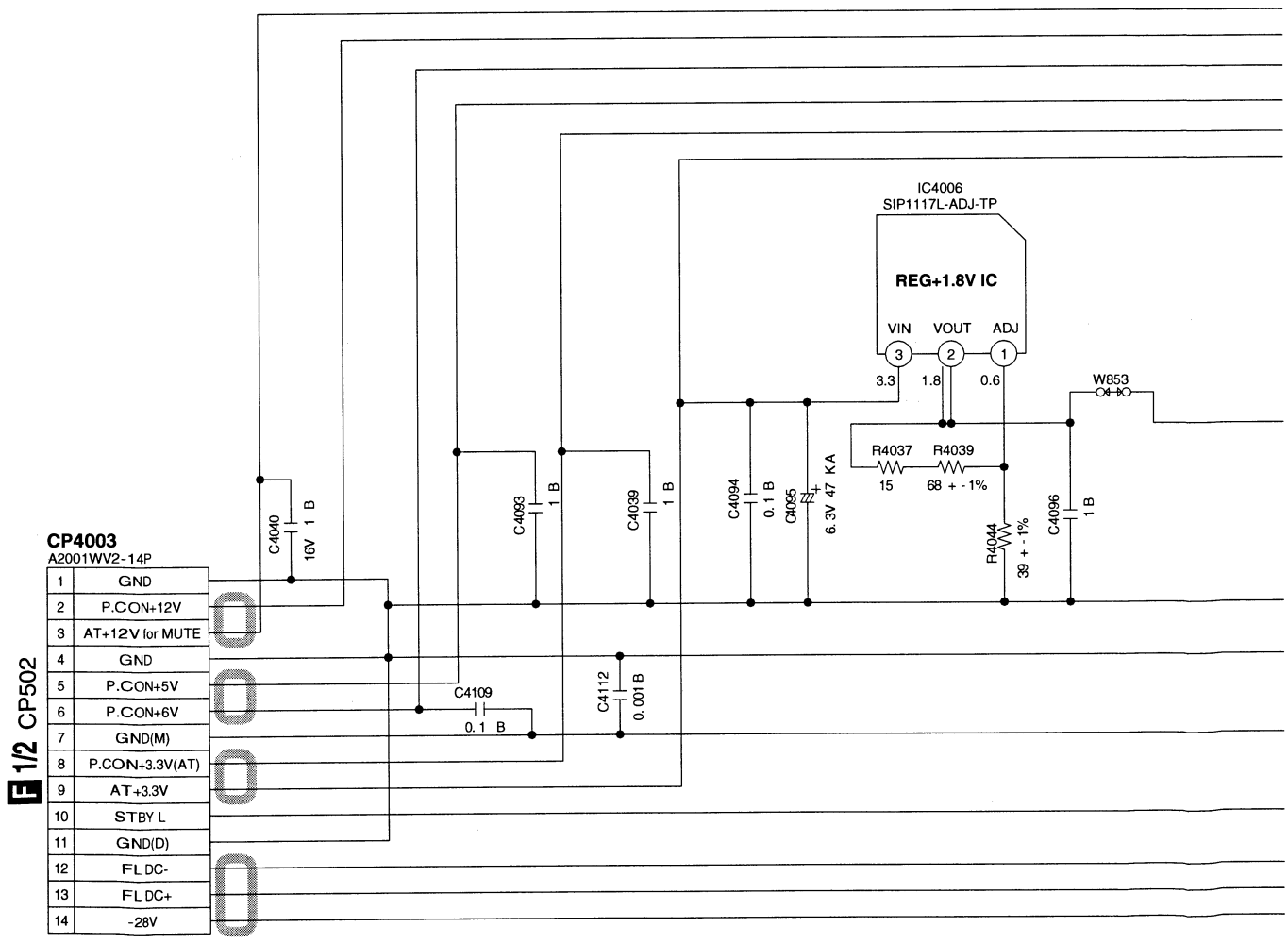
NOTE : THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

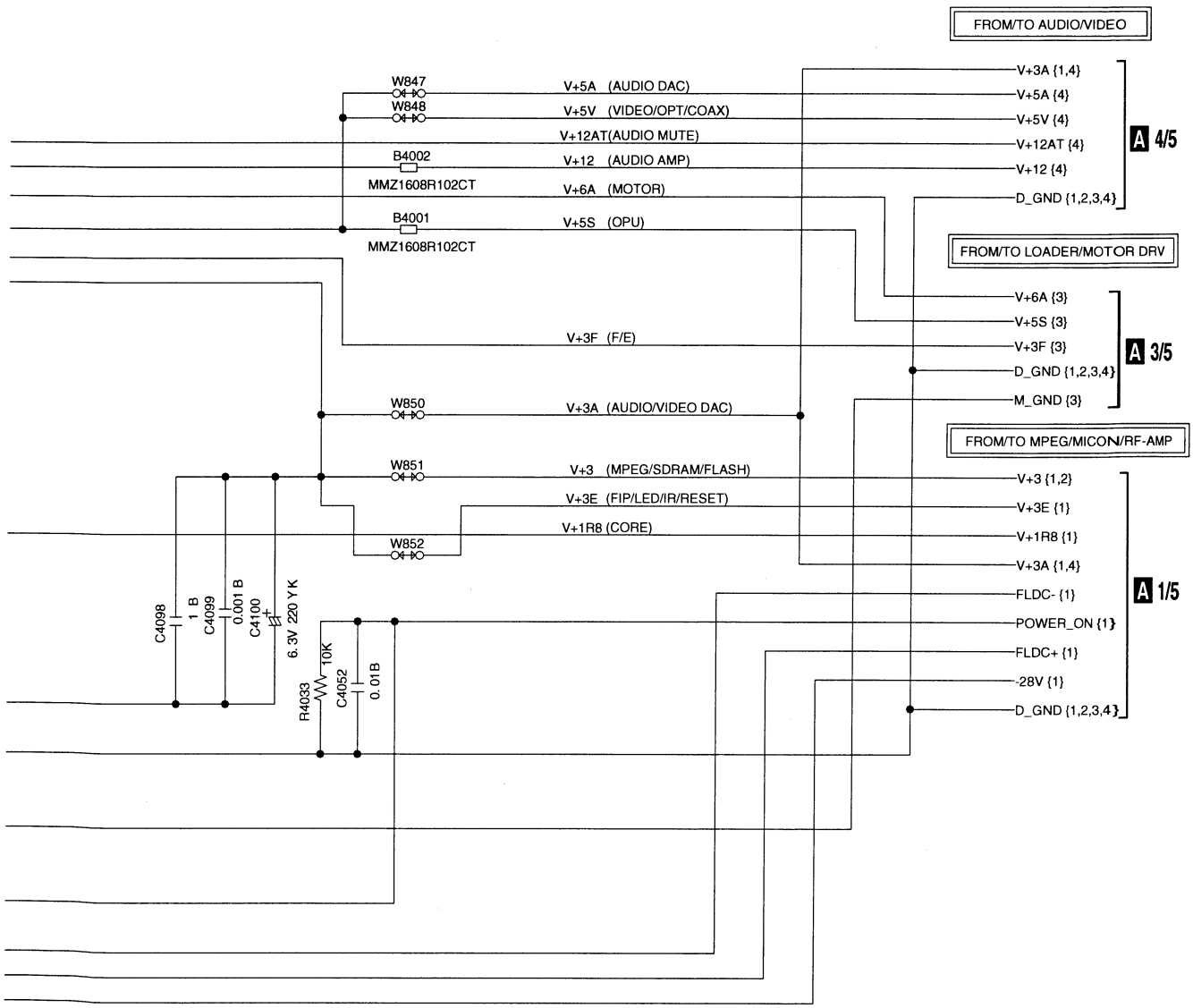


3.7 DVD MT PCB (5/5) ASSY

A 5/5 DVD MT PCB ASSY (A2G502A130)

- **POWER PORT BLOCK**





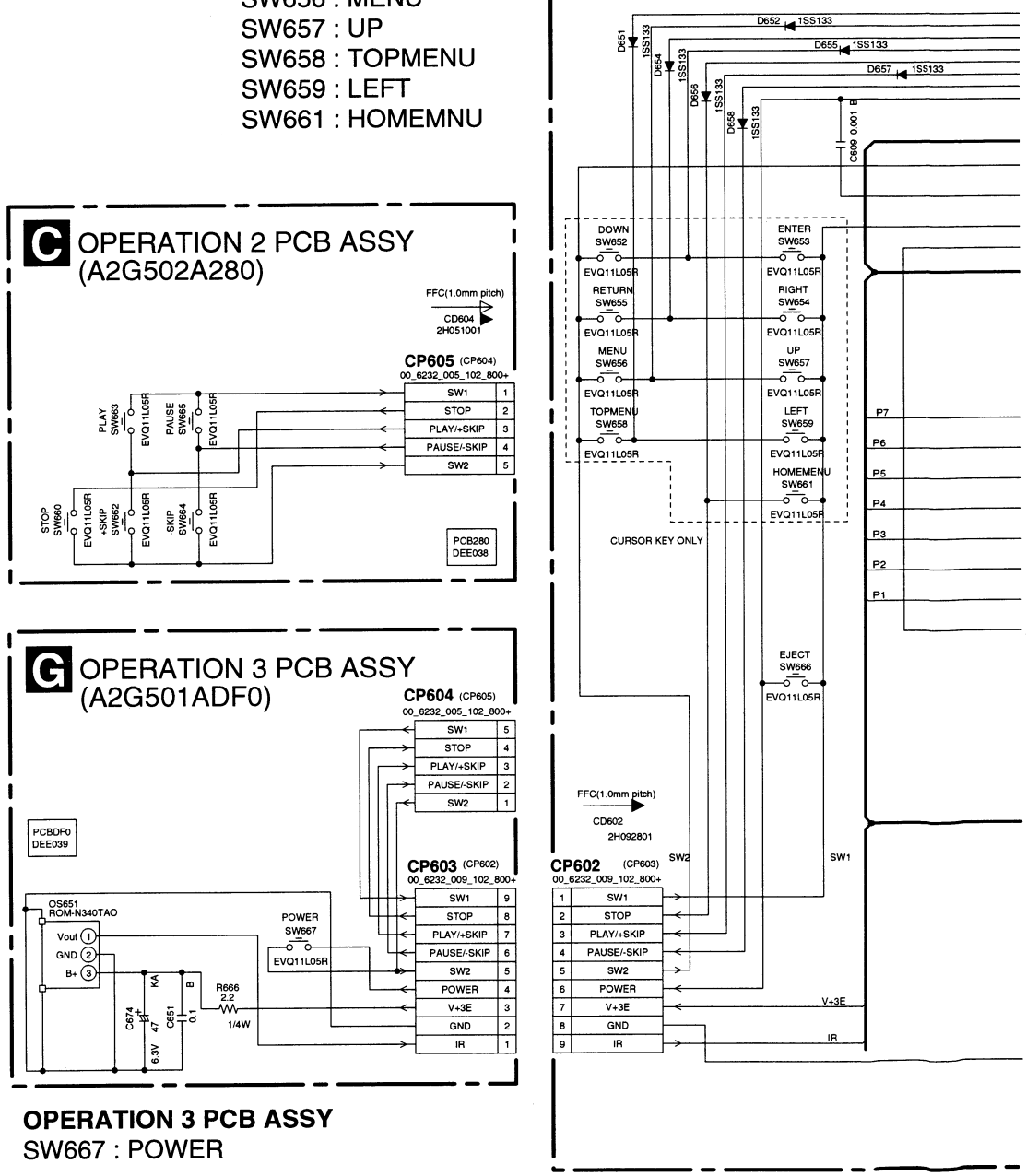
NOTE : THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

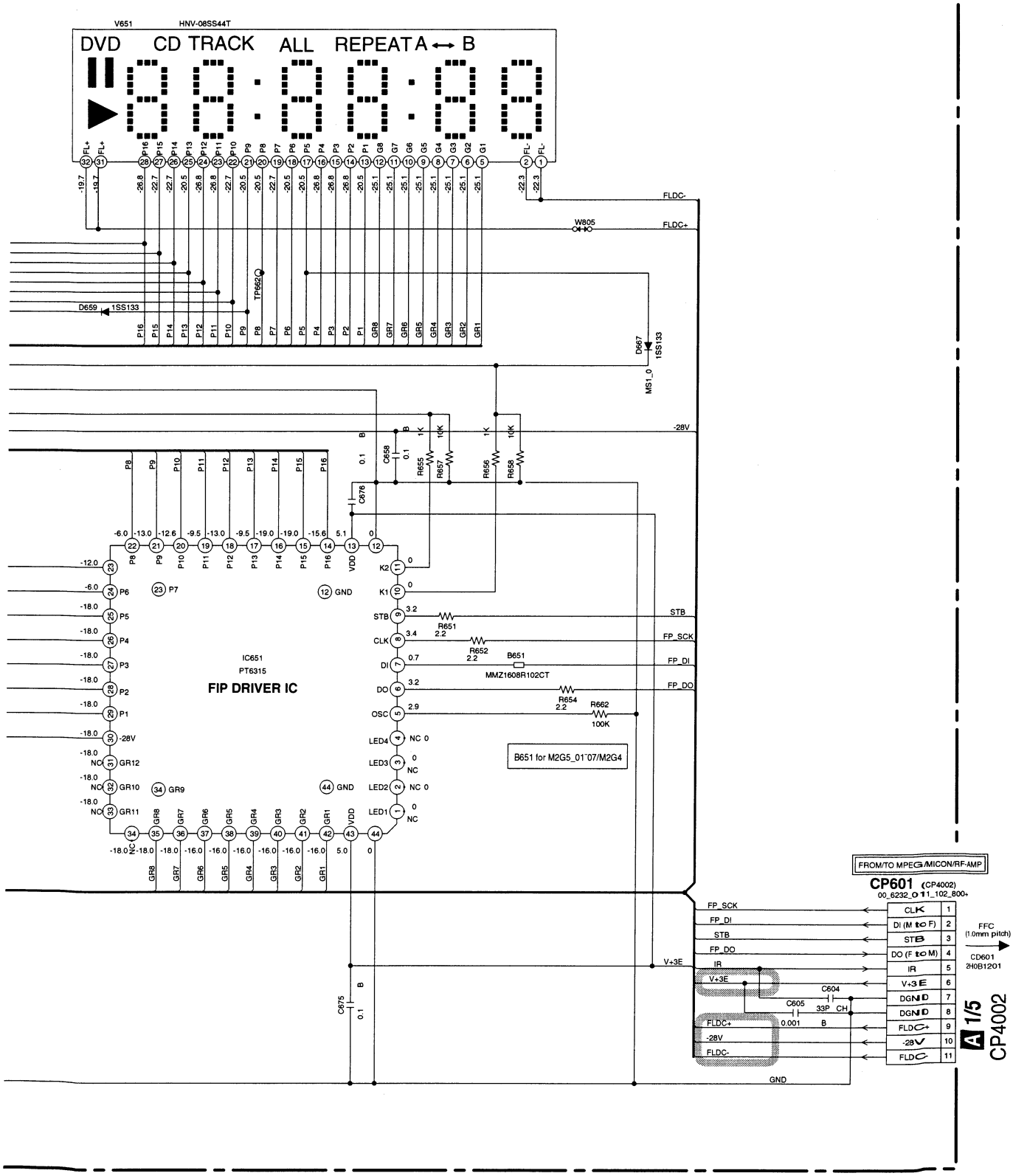
3.8 OPERATION, OPERATION 2 and OPERATION 3 PCB ASSYS

OPERATION PCB ASSY
SW652 : DOWN
SW653 : ENTER
SW654 : RIGHT
SW655 : RETURN
SW656 : MENU
SW657 : UP
SW658 : TOPMENU
SW659 : LEFT
SW661 : HOMEMNU

OPERATION 2 PCB ASSY
SW660 : STOP
SW662 : +SKIP
SW664 : - SKIP
SW663 : PLAY
SW665 : PAUSE

OPERATION 3 PCB ASSY
SW667 : POWER





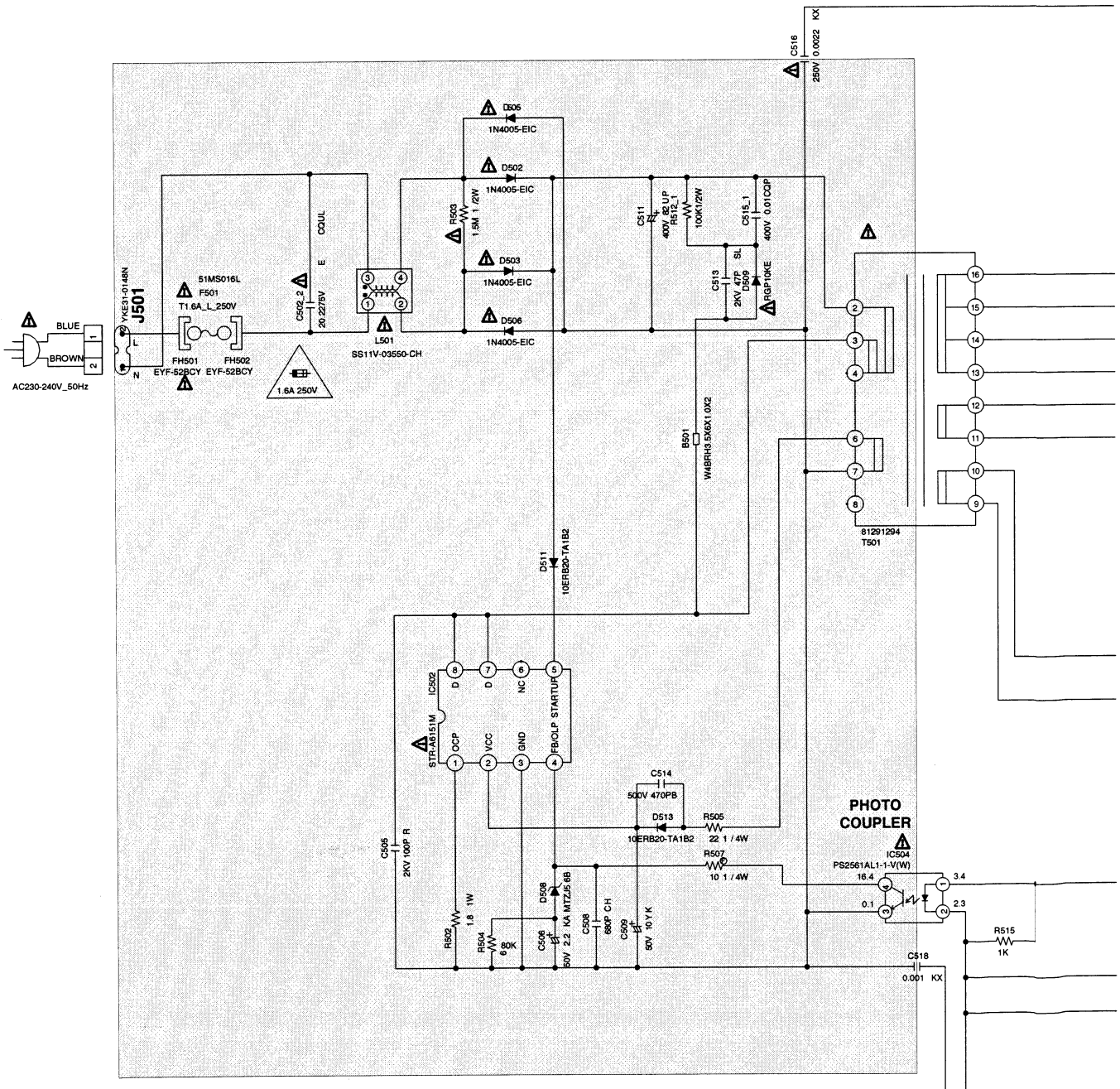
NOTE : THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

NOTE : THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

3.9 POWER PCB (1/2) ASSY

F 1/2 POWER PCB ASSY (A2G502A240)

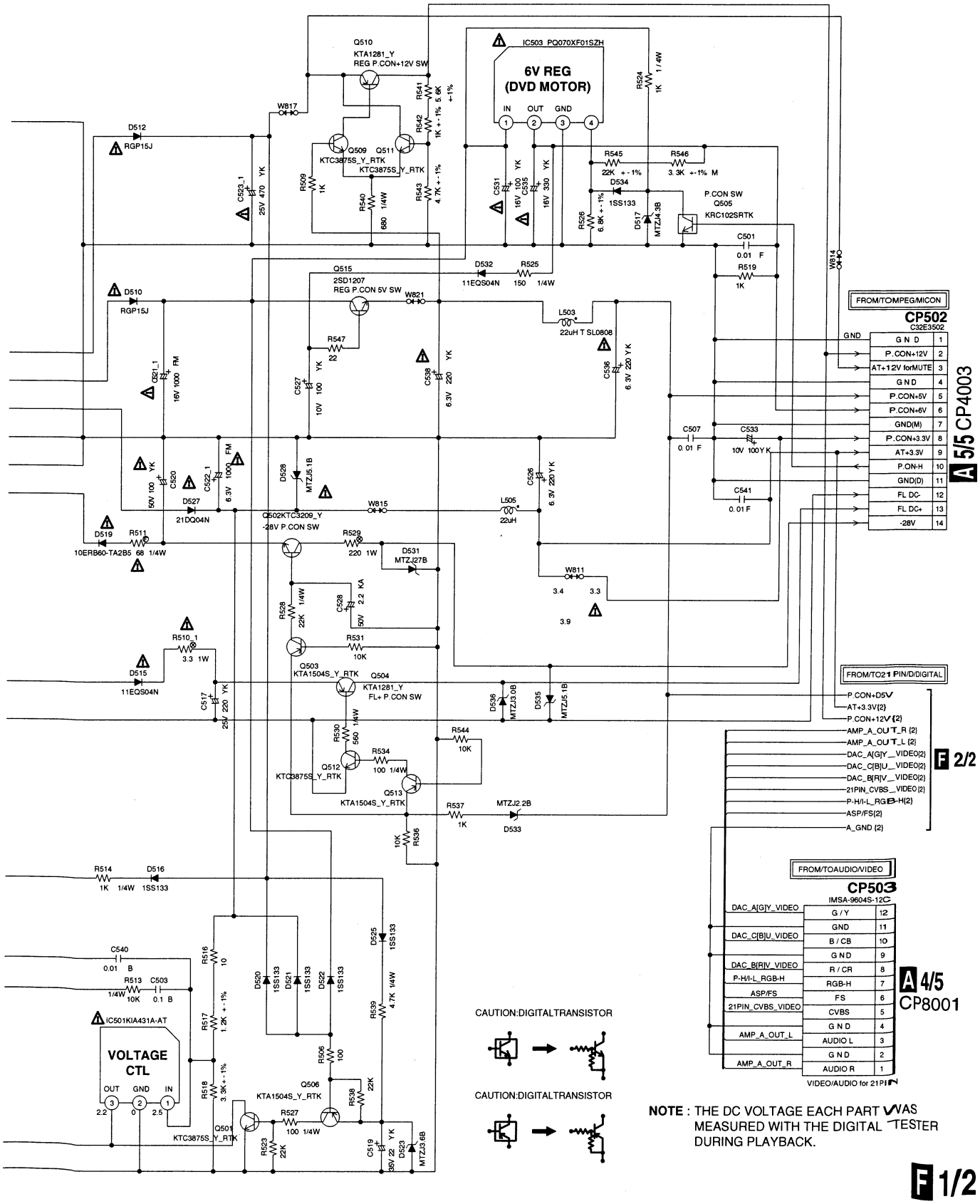
- **POWER BLOCK**



- NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS OF FUSE.

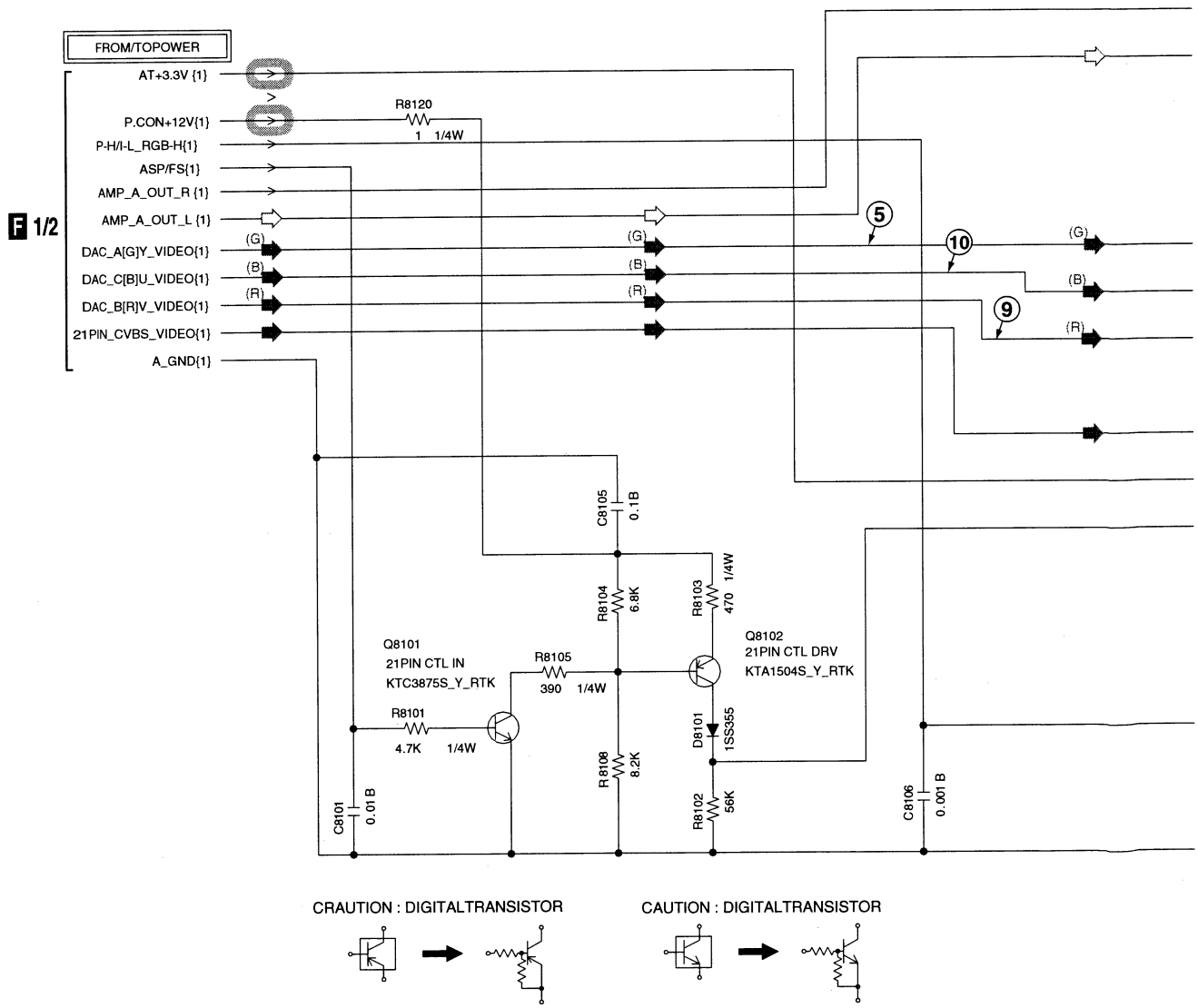
F 1/2


Q510
KTA1281_Y
REG P.CON+12V SW
IC503 PQ070XF01SZH
6V REG
(DVD MOTOR)
IN OUT GND
W817
D512
RGP15J
Q509 Q511
KTC3875S_Y_RTK
KTC3875S_Y_RTK
R545 22K +-1%
R546 3.3K +-1% M
D534 1SS133
P.CON SW
Q505
KRC102SRTK
C501 0.01 F
R519 1K
D532 11EQS04N
R525 150 1/4W
Q515
2SD1207
REG P.CON 5V SW
W821
D510
RGP15J
L503 22uH T SL0808
R547 22
W614
FROM/TOMPEG/MICON
CP502
C32E3502
GND
G N D 1
P.CON+12V 2
AT+12V forMUTE 3
G N D 4
P.CON+5V 5
P.CON+6V 6
GND(M) 7
P.CON+3.3V 8
AT+3.3V 9
P.ON-H 10
GND(D) 11
FL DC- 12
FL DC+ 13
-28V 14
A 5/5 CP4003
C507 0.01 F
C533 10V 100Y K
C541 0.01 F
D528 MTZJ5.1B
Q502KTC3209_Y
-28V P.CON SW
W815
L505 22uH
D519 10ERB60-TA2B5
R511 68 1/4W
R529 220 1W
D531 MTZJ27B
W811
3.4 3.3 3.9
R528 22K 1/4W
C528 2.2 KA 50V
R531 10K
R510_1 3.3 1W
D515 11EQS04N
Q503 KTA1504S_Y_RTK
Q504 KTA1281_Y
FL+ P.CON SW
D536 MTZJ3.0B
D535 MTZJ5.1B
FROM/TO21 PIN/D/DIGITAL
P.CON+D5V
AT+3.3V{2}
P.CON+12V{2}
AMP_A_OUT_R {2}
AMP_A_OUT_L {2}
DAC_A[G]Y_VIDEO{2}
DAC_C[B]U_VIDEO{2}
DAC_B[R]V_VIDEO{2}
21PIN_CVBS_VIDEO{2}
P-H/I-L_RGB-H{2}
ASP/FS{2}
A_GND {2}
F 2/2
R530 560 1/4W
R534 100 1/4W
R544 10K
Q512 KTC3875S_Y_RTK
Q513 KTA1504S_Y_RTK
R537 1K
MTZJ2.2B
D533
R536 10K
R514 1K 1/4W
D516 1SS133
FROM/TOAUDIO/VIDEO
CP503
IMSA-9604S-12C
DAC_A[G]Y_VIDEO G / Y 12
GND 11
DAC_C[B]U_VIDEO B / CB 10
G N D 9
DAC_B[R]V_VIDEO R / CR 8
P-H/I-L_RGB-H RGB-H 7
ASP/FS FS 6
21PIN_CVBS_VIDEO CVBS 5
G N D 4
AMP_A_OUT_L AUDIO L 3
G N D 2
AMP_A_OUT_R AUDIO R 1
VIDEO/AUDIO for 21PIN
A 4/5 CP8001
C540 0.01 B
R513 10K 1/4W
C503 0.1 B
IC501KIA431A-AT
VOLTAGE CTL
OUT GND IN
2.2 0 2.5
R516 10
R517 1.2K +-1%
R518 3.3K +-1%
D520 1SS133
D521 1SS133
D522 1SS133
D525 1SS133
R539 4.7K 1/4W
R506 100
Q506 KTA1504S_Y_RTK
R538 22K
Q501 KTC3875S_Y_RTK
R527 100 1/4W
R523 22K
C519 35V 22 Y K
D523 MTZJ3.6B
CAUTION:DIGITALTRANSISTOR
CAUTION:DIGITALTRANSISTOR
NOTE : THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.
F 1/2

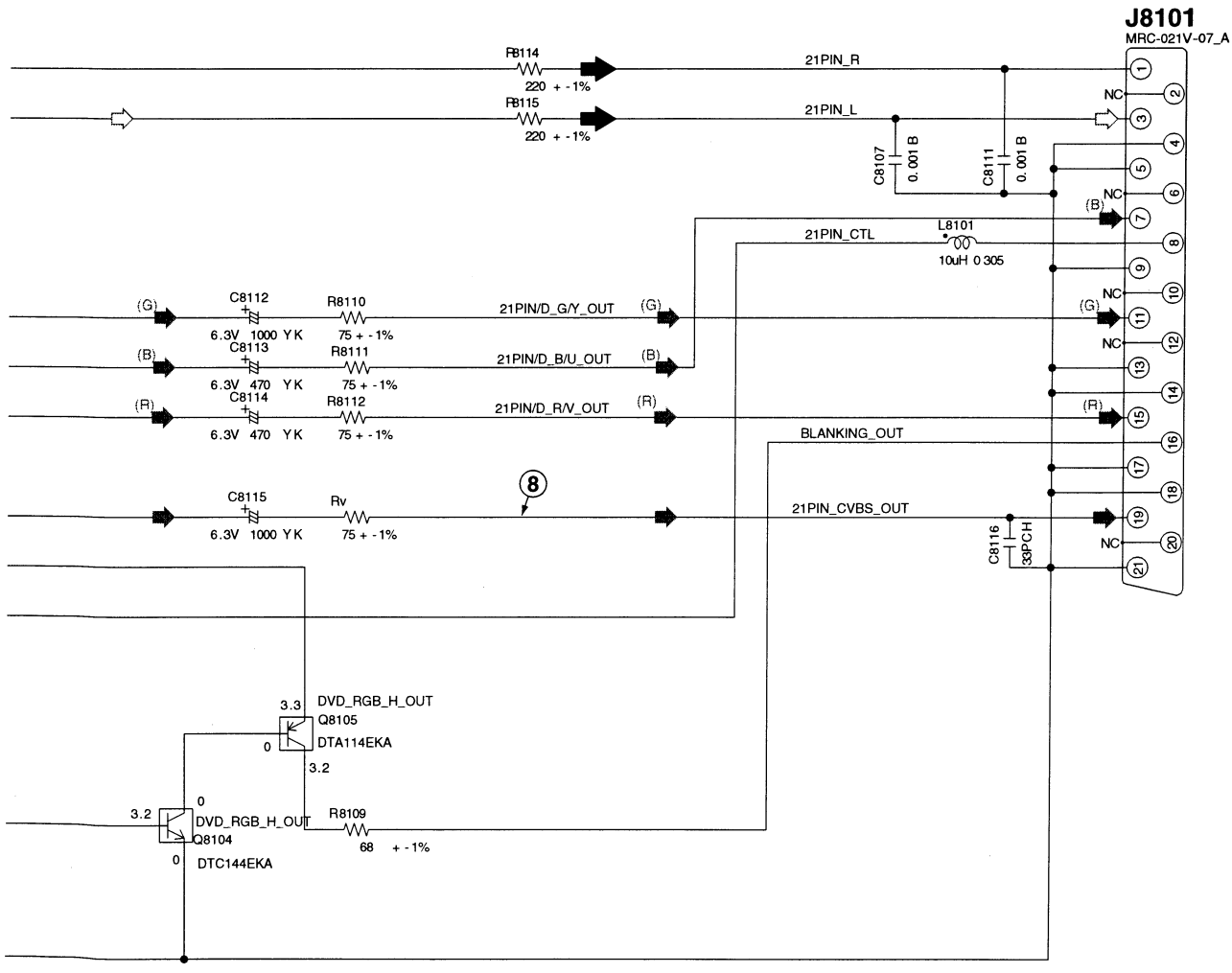
3.10 POWER PCB (2/2) ASSY

F 2/2 POWER PCB ASSY (A2G502A240)

● 21PIN/D/DIGTAL AUDIO BLOCK



: VIDEO SIGNAL ROUTE
(R) : VIDEO SIGNAL ROUTE (R ch)
(G) : VIDEO SIGNAL ROUTE (G ch)
(B) : VIDEO SIGNAL ROUTE (B ch)
: AUDIO SIGNAL ROUTE (L ch)



NOTE : THE DC VOLTAGE EACH PART WAS MEASURED WITH THE DIGITAL TESTER DURING PLAYBACK.

F 2/2

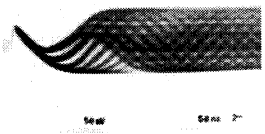
3.11 WAVEFORMS

Note : The encircled numbers denote measuring point in the schematic diagram.

Measurement condition : No. 1 to 2 and 9 to 14 : reference A1 (DVD), T2-chp 19, Color-bar
No. 3 to 8 : reference A1 (DVD), T2-chp 1

A DVD MT PCB ASSY

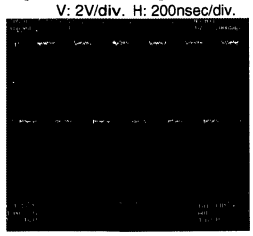
(1) Foot of C626 [RF](IC4002 - pin 6)
V: 200mV/div. H: 0.1µsec/div.



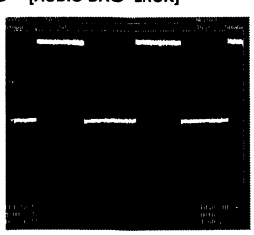
← GND

(3) Foot of R8070 (IC8004 - pin 16)
[AUDIO DAC -MCLK]

(4) Foot of R4004 (IC8004 - pin 1)
[AUDIO DAC -BCK]
V: 2V/div. H: 200nsec/div.



(5) Foot of R4050 (IC8004 - pin 3)
[AUDIO DAC -LRCK]

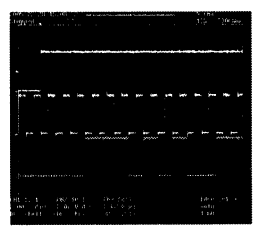


V: 2V/div. H: 5µsec/div.

(6) Foot of R4050 (IC8004 - pin 3)
[AUDIO DAC -LRCK]

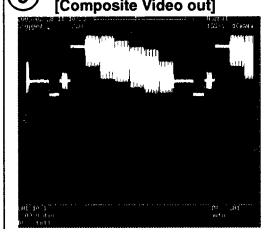
(7) Foot of R8047 (IC8004 - pin 1)
[AUDIO DAC -BCK]

(8) Foot of R4043 (IC8004 - pin 2)
[AUDIO DAC -DATA]
(Waveform of DATA is unsettled.)



V: 2V/div. H: 500nsec/div.

(9) (IC8002 - pin 23)
[Composite Video out]

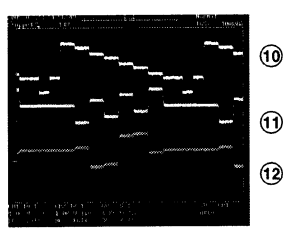


V: 1V/div. H: 10µsec/div.

(10) (IC8002 - pin 20)
[Component Video out -Y]
V: 1V/div. H: 10µsec/div.

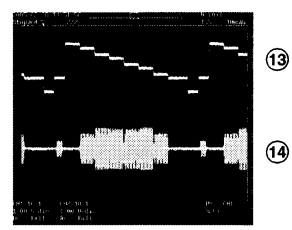
(11) (IC8002 - pin 18)
[Component Video out -Pb]
V: 2V/div. H: 10µsec/div.

(12) (IC8002 - pin 16)
[Component Video out -Pr]
V: 2V/div. H: 10µsec/div.



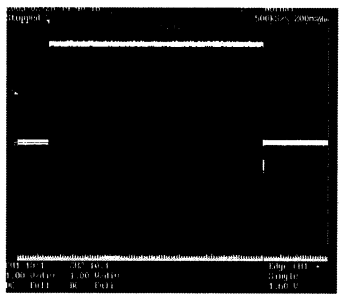
(13) (IC8002 - pin 21)
[S Video out -Y]
V: 1V/div. H: 10µsec/div.

(14) (IC8002 - pin 26)
[S Video out -C]
V: 1V/div. H: 10µsec/div.



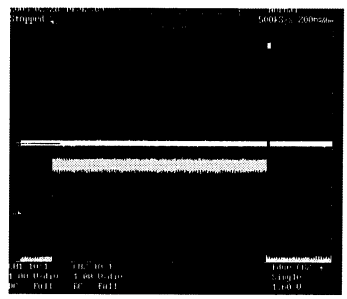
A DVD MT PCB ASSY

⑮ **Foot of R4026**(IC2301 - pin 1) **[TROPEN]**
[Tray is Open]



V: 1V/div. H: 5µsec/div.

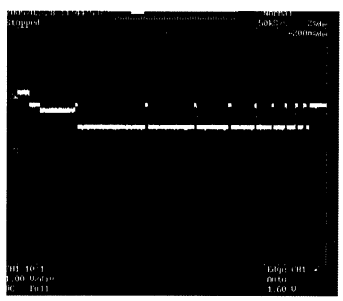
⑯ **Foot of R4002**(IC2301 - pin 2 **[TRCLOSE]**
[Tray is closing]



V: 1V/div. H: 5µsec/div.

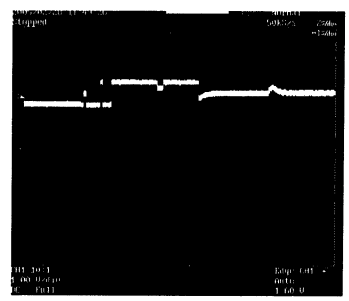
⑰ **Foot of R618** (IC4002 - pin 37) **[DMSO]**

[DMSO_OPEN]



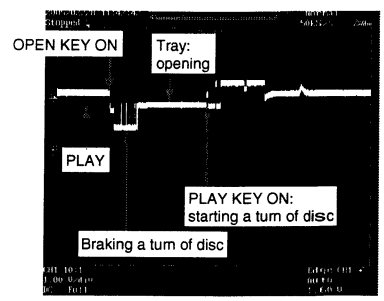
V: 1V/div. H: 10µsec/div.

[DMSO_PLAY]



V: 1V/div. H: 10µsec/div.

[DMS~3]



V: 1V/div. H: 2sec/div.

⑱ **CN2303 - pin 1**
(IC2301 - pin 11)
[MOT_SPDL+]

V: 2V/div. H: 2msec/div.

A

B

C

D

E

F

1 2 3 4

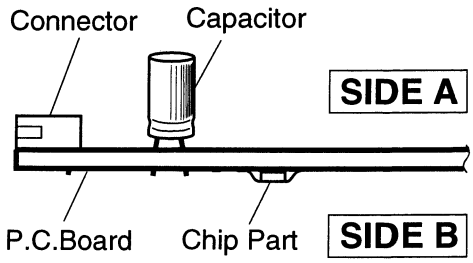
4. PCB CONNECTION DIAGRAM
4.1 LOADING and SW PCB ASSYS

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

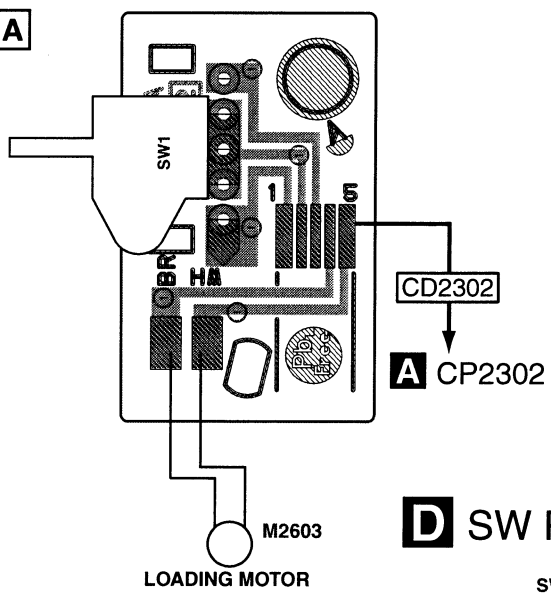
Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



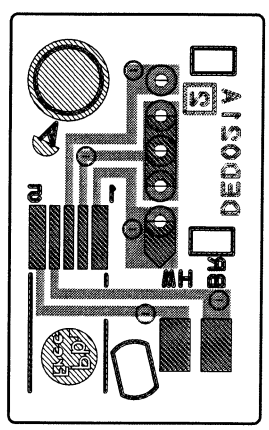
E LOADING MOTOR PCB ASSY
(INSERTED PARTS)

SIDE A

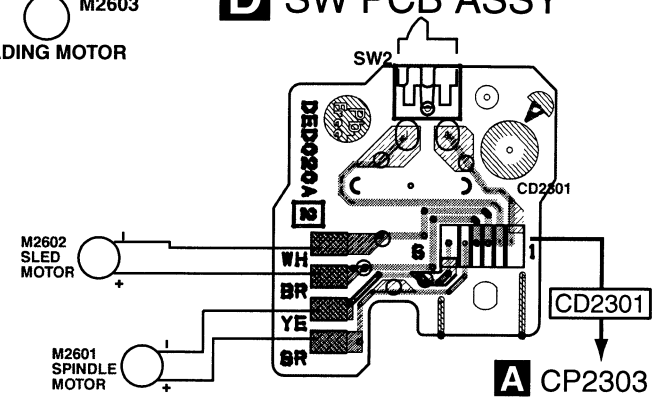


E LOADING MOTOR PCB ASSY
(CHIP MOUNTED PARTS)

SIDE B



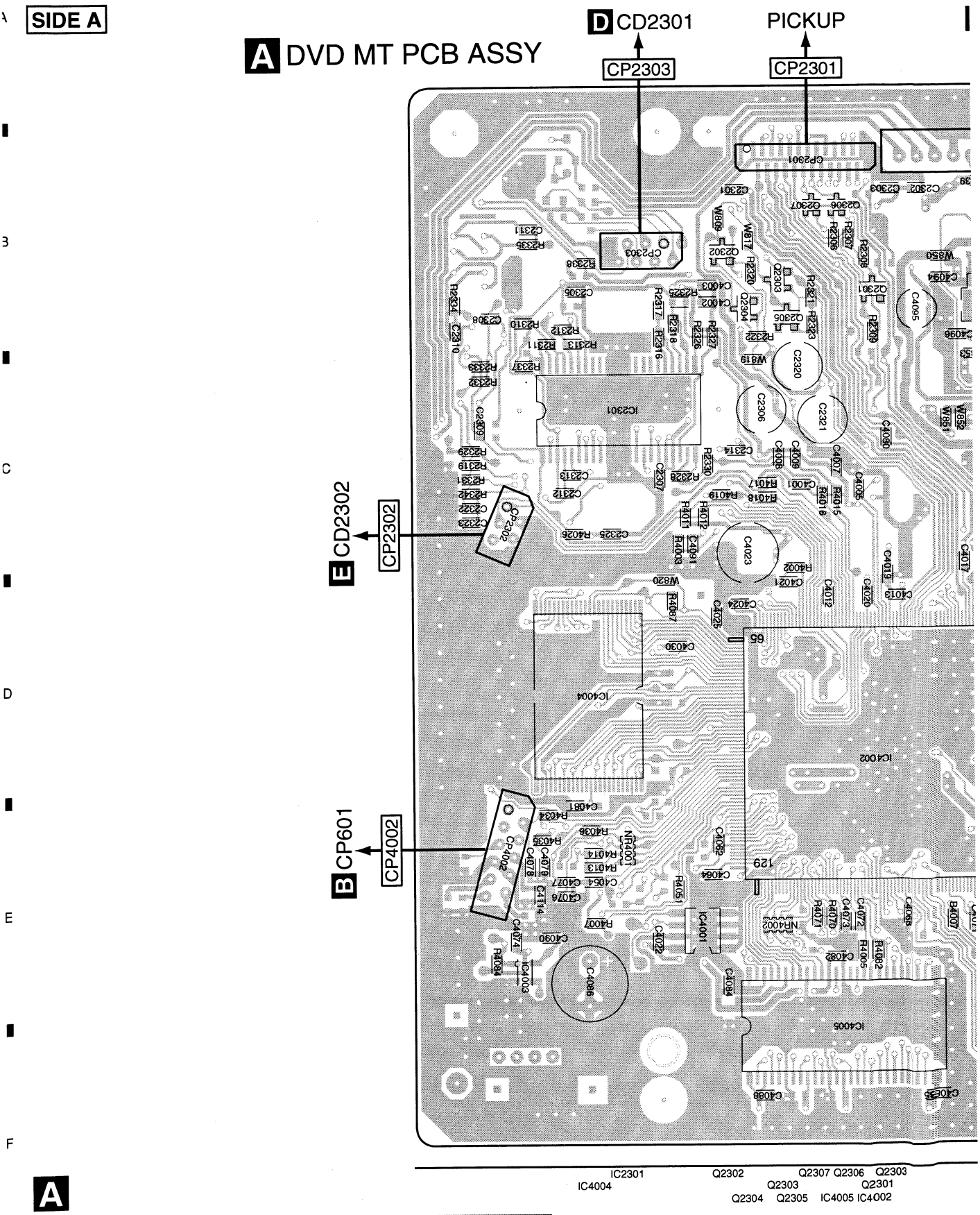
D SW PCB ASSY

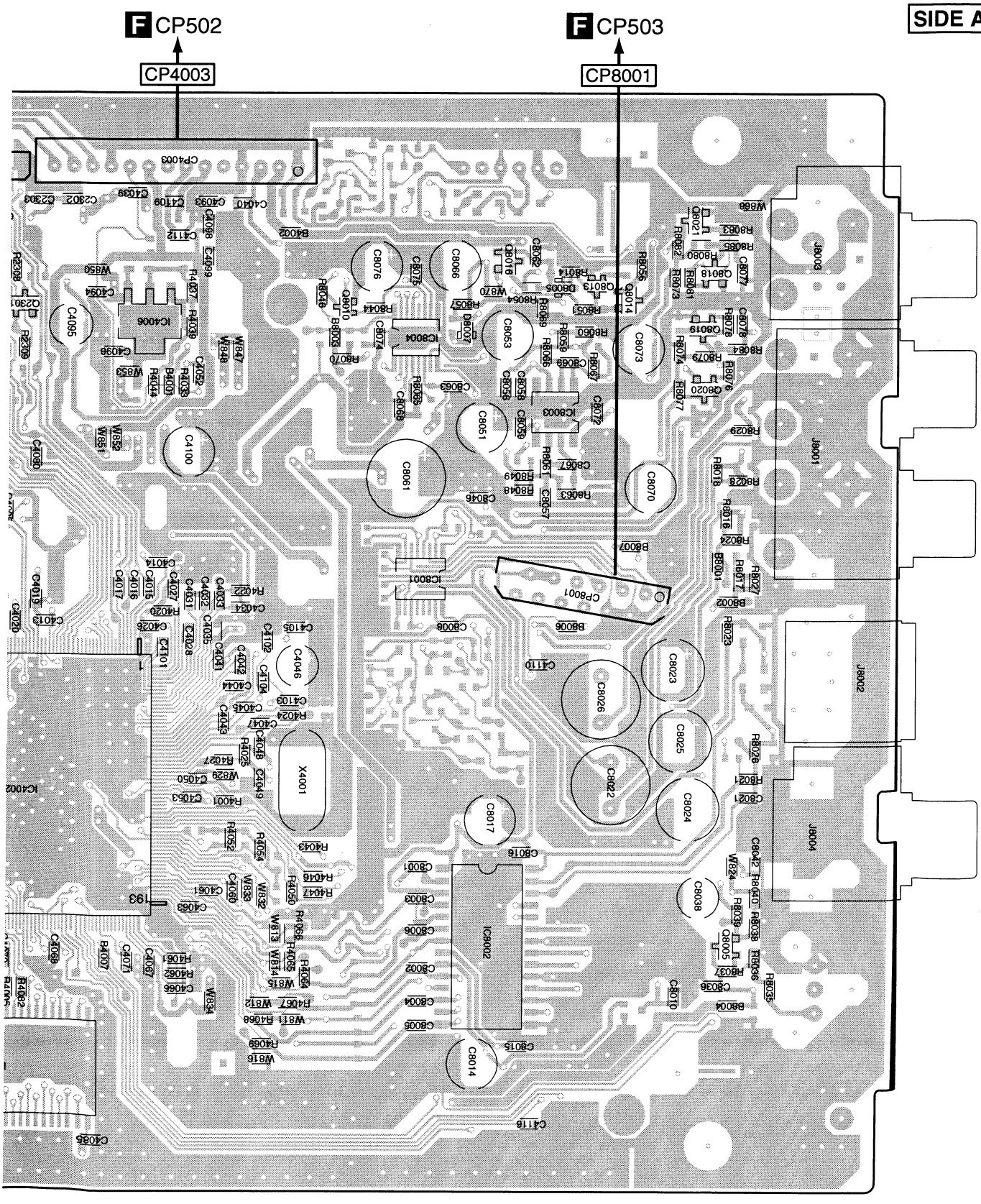


D **E**

D **E**

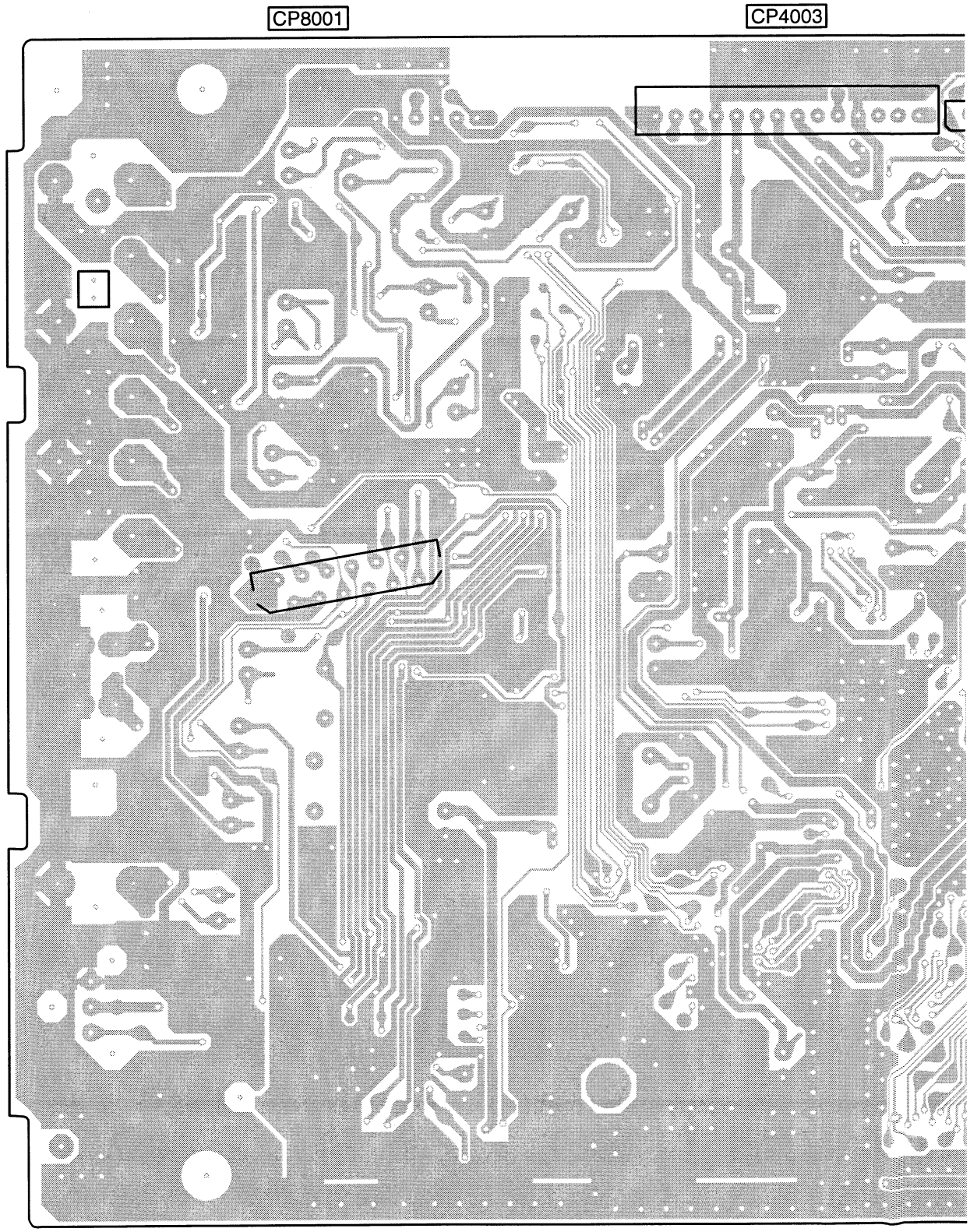
4.2 DVD MT PCB ASSY




F CP502
CP4003
F CP503
CP8001
SIDE A
CP4003
CP8001
IC4006
IC8004
IC8003
IC8001
IC8002
X4001
J8003
J8001
J8002
J8004
Q2303
Q2301
C4002
IC4006
Q8010
Q8016
Q8013
IC8004
IC8001
IC8003
Q8014
Q8018-Q8021
Q8005
IC8002

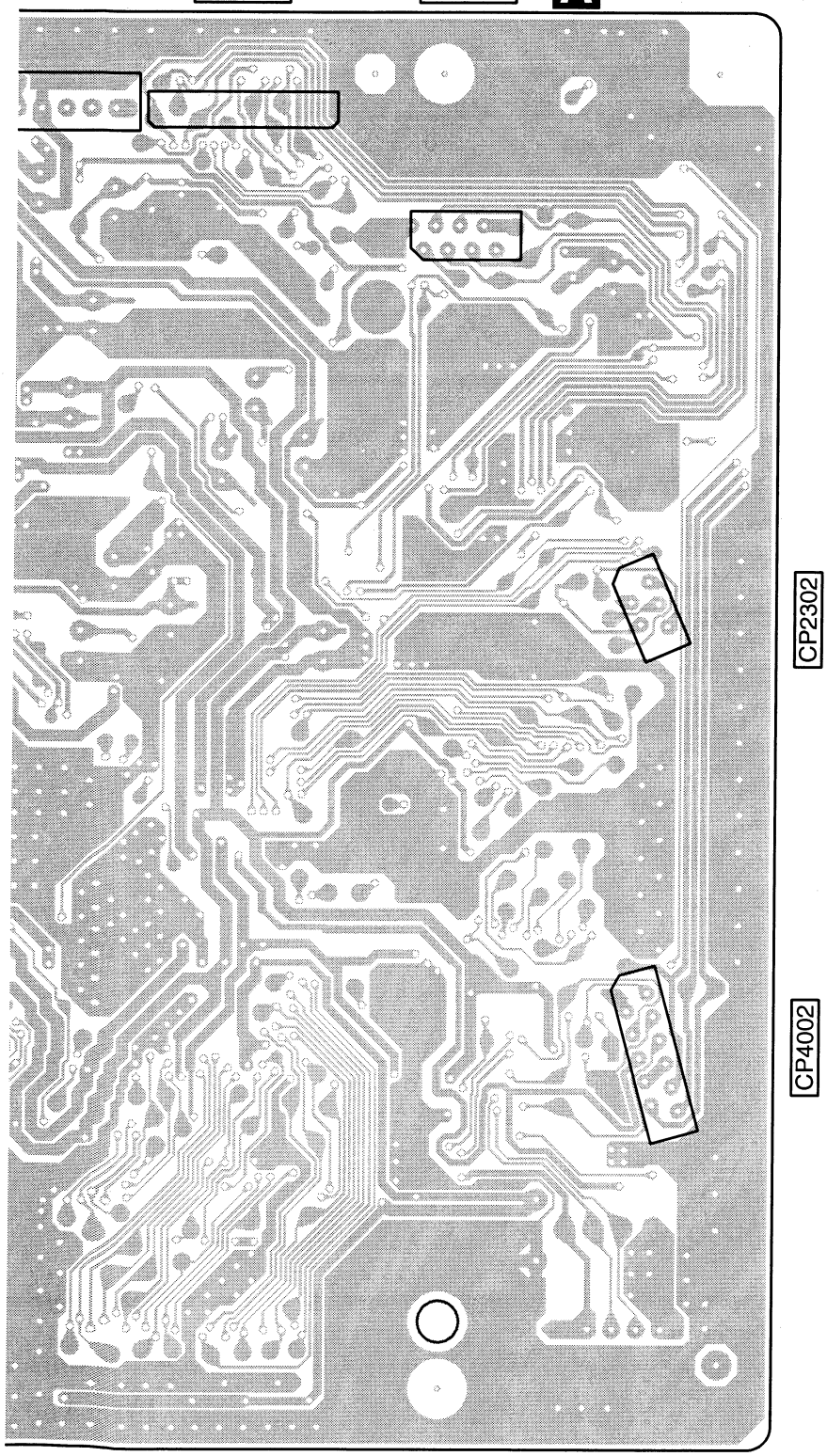
DV-2850-S

SIDE B



SIDE B

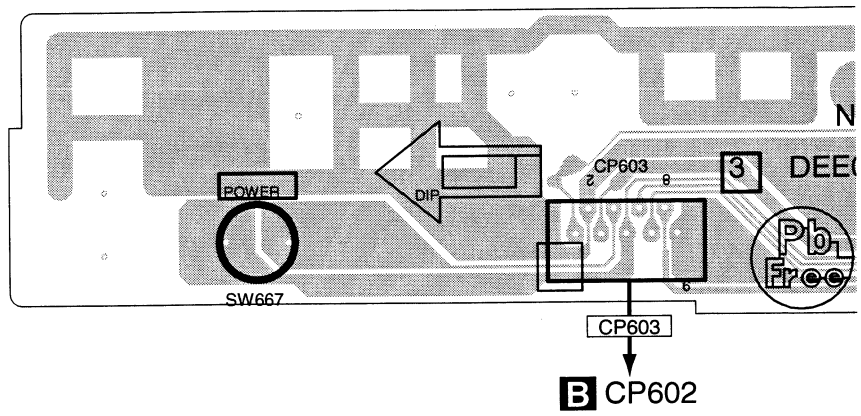
A DVD MT PCB ASSY



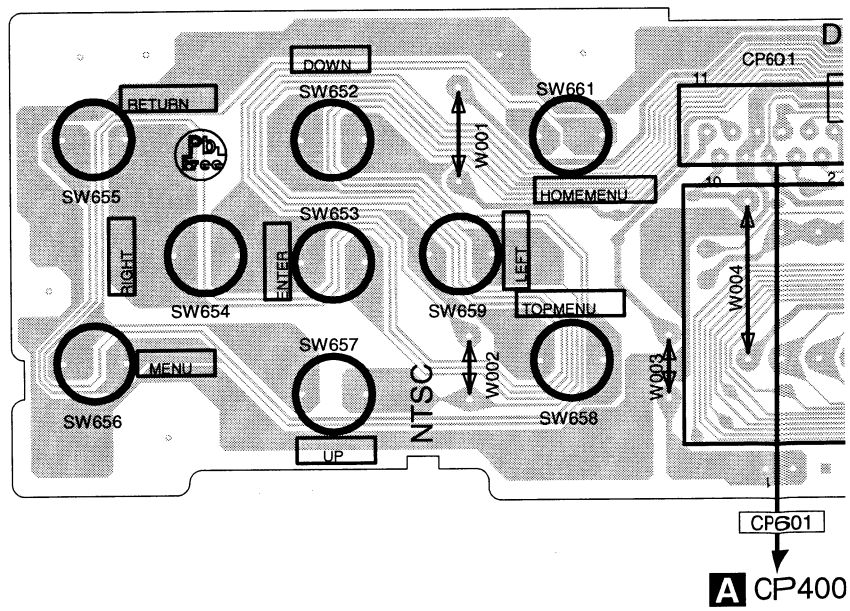
4.3 OPERATION, OPERATION 2 and OPERATION 3 PCB ASSYS

SIDE A

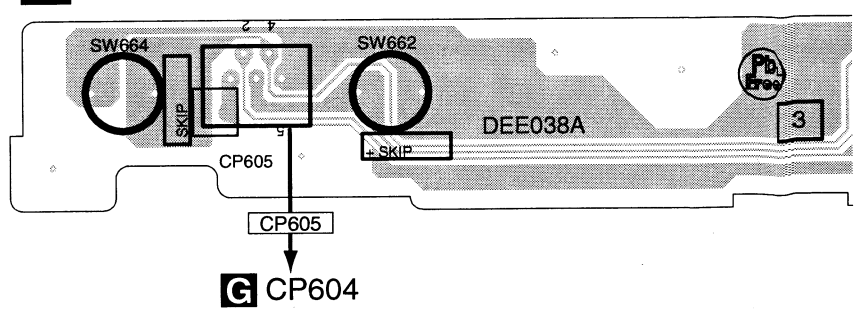
G OPERATION 3 PCB ASSY



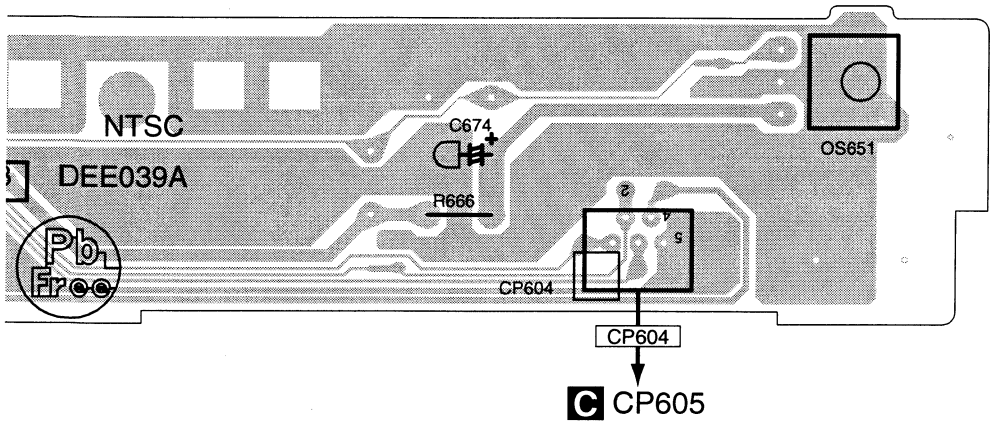
B OPERATION PCB ASSY

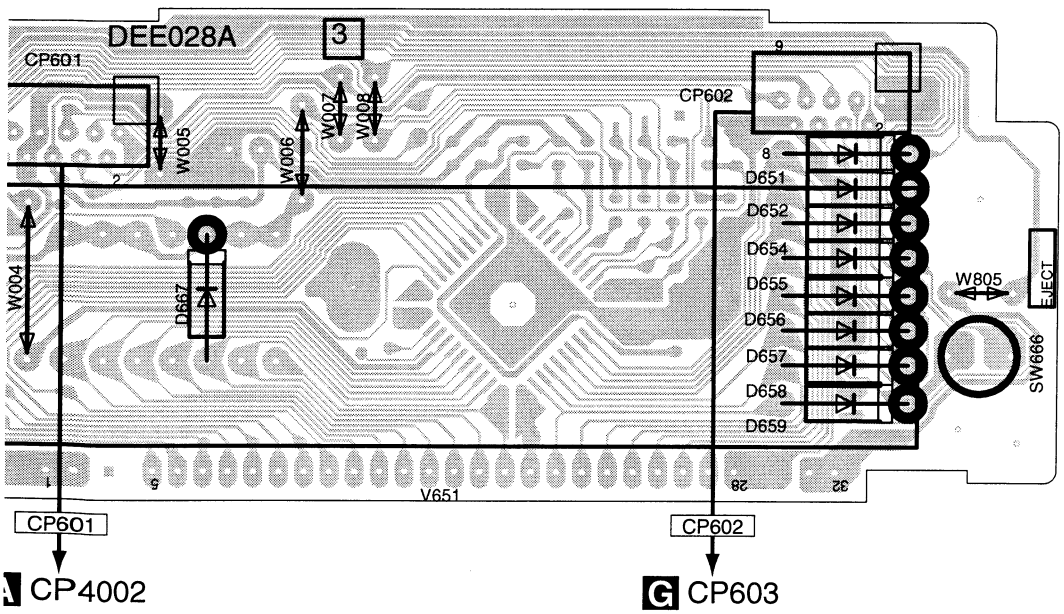


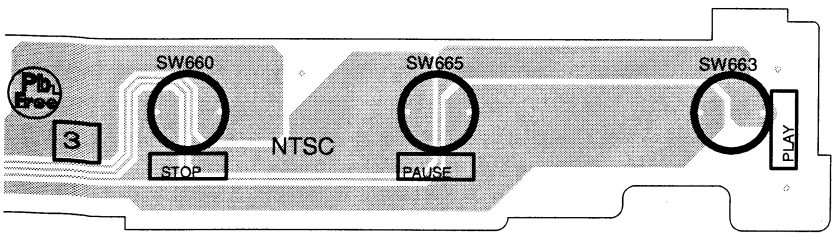
C OPERATION 2 PCB ASSY



SIDE A

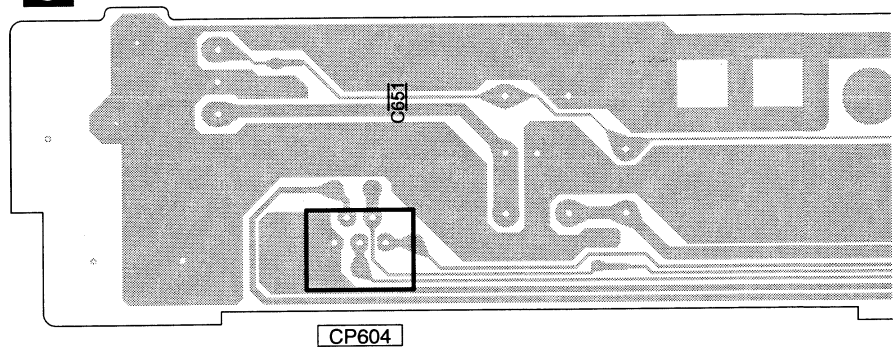

NTSC
DEE039A
Pb Free
C674
R666
OS651
CP604
CP604
C CP605


DEE028A
3
CP601
W005
W007
W008
W006
W004
D667
CP602
D651
D652
D654
D655
D656
D657
D658
D659
W805
EJECT
SW666
V651
CP601
A CP4002
CP602
G CP603

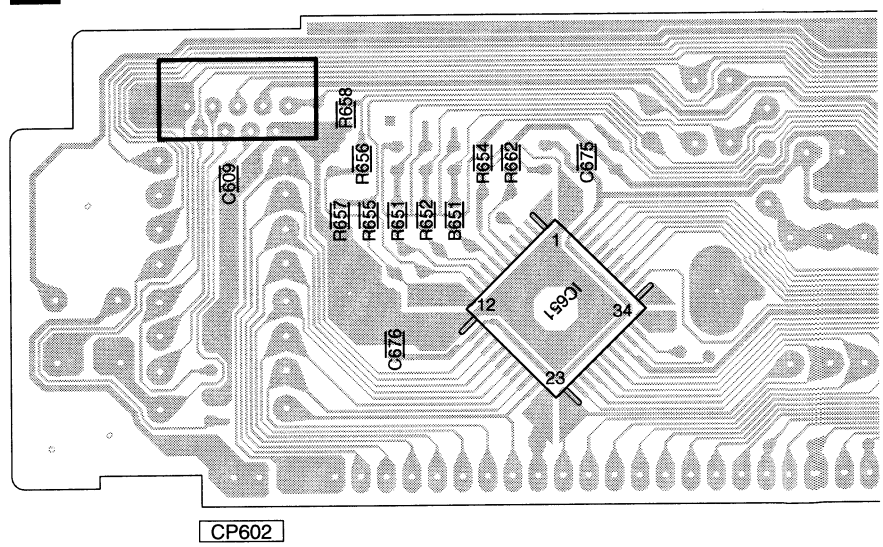

Pb Free
3
SW660
STOP
NTSC
SW665
PAUSE
SW663
PLAY

SIDE B

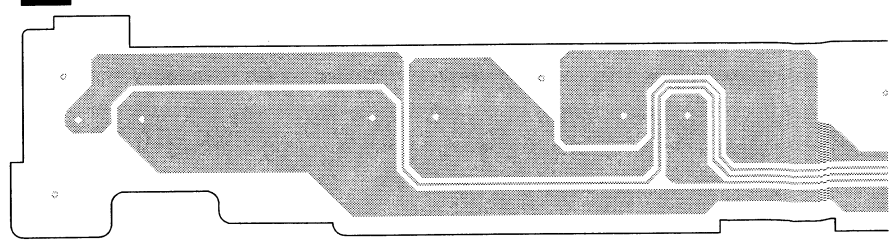
G OPERATION 3 PCB ASSY



B OPERATION PCB ASSY

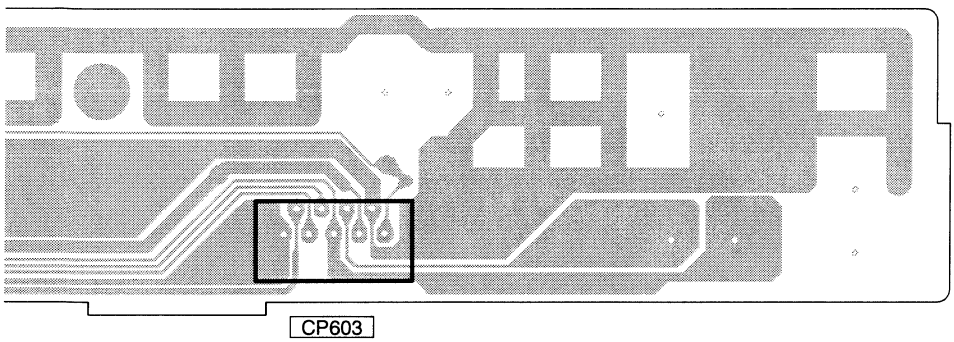


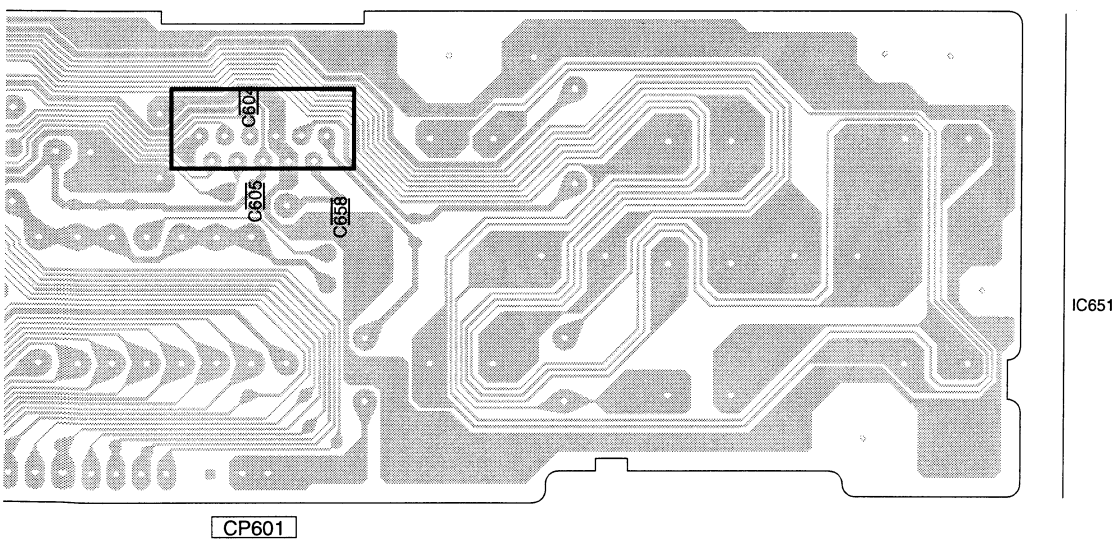
C OPERATION 2 PCB ASSY

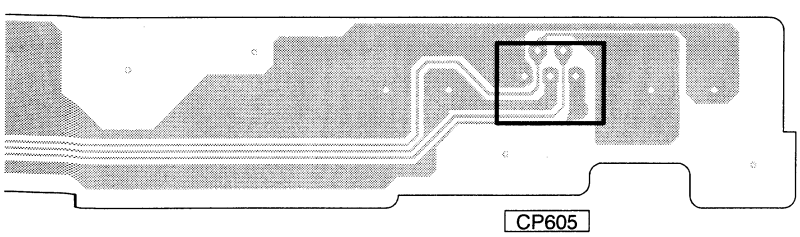


B C G

SIDE B

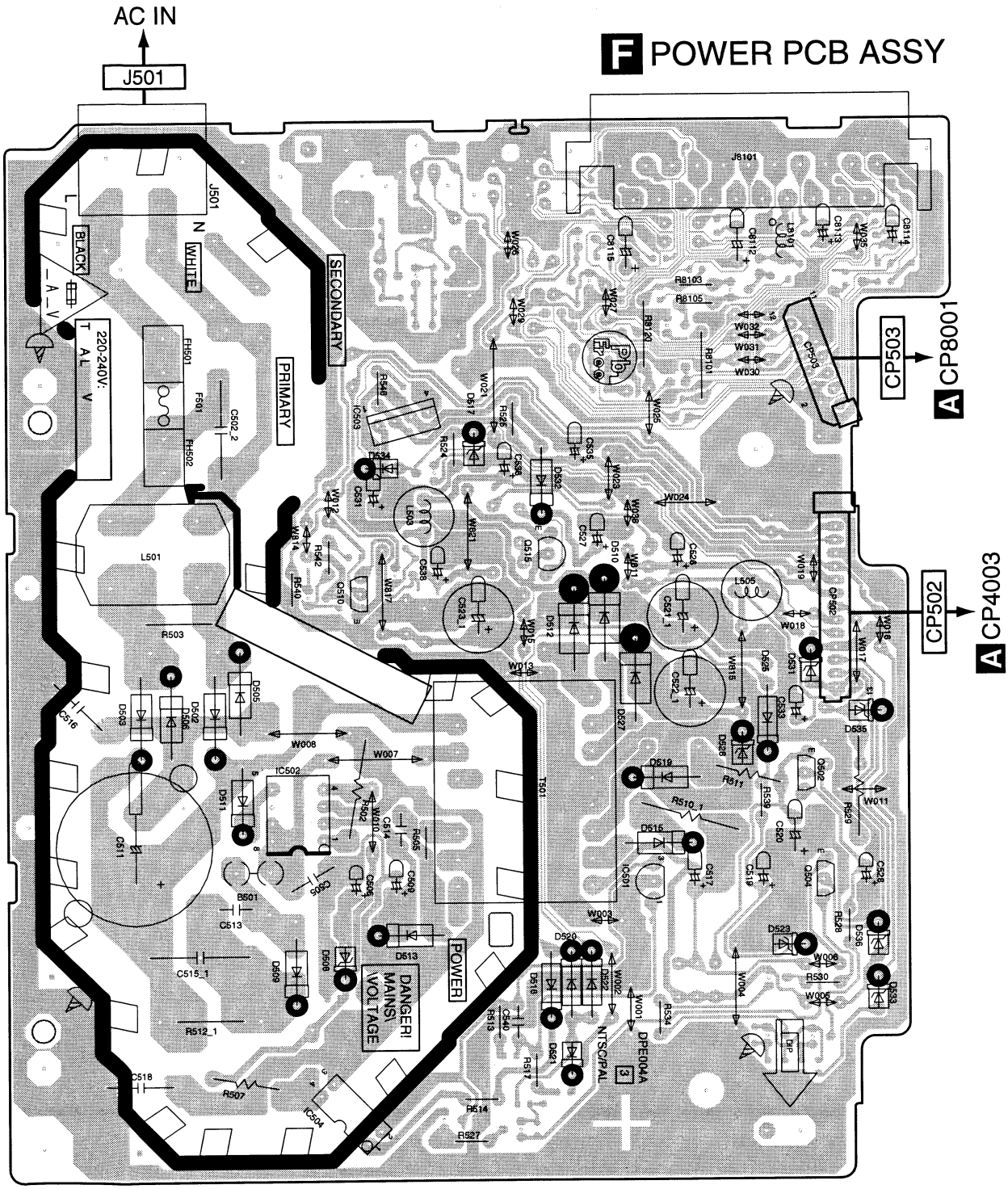






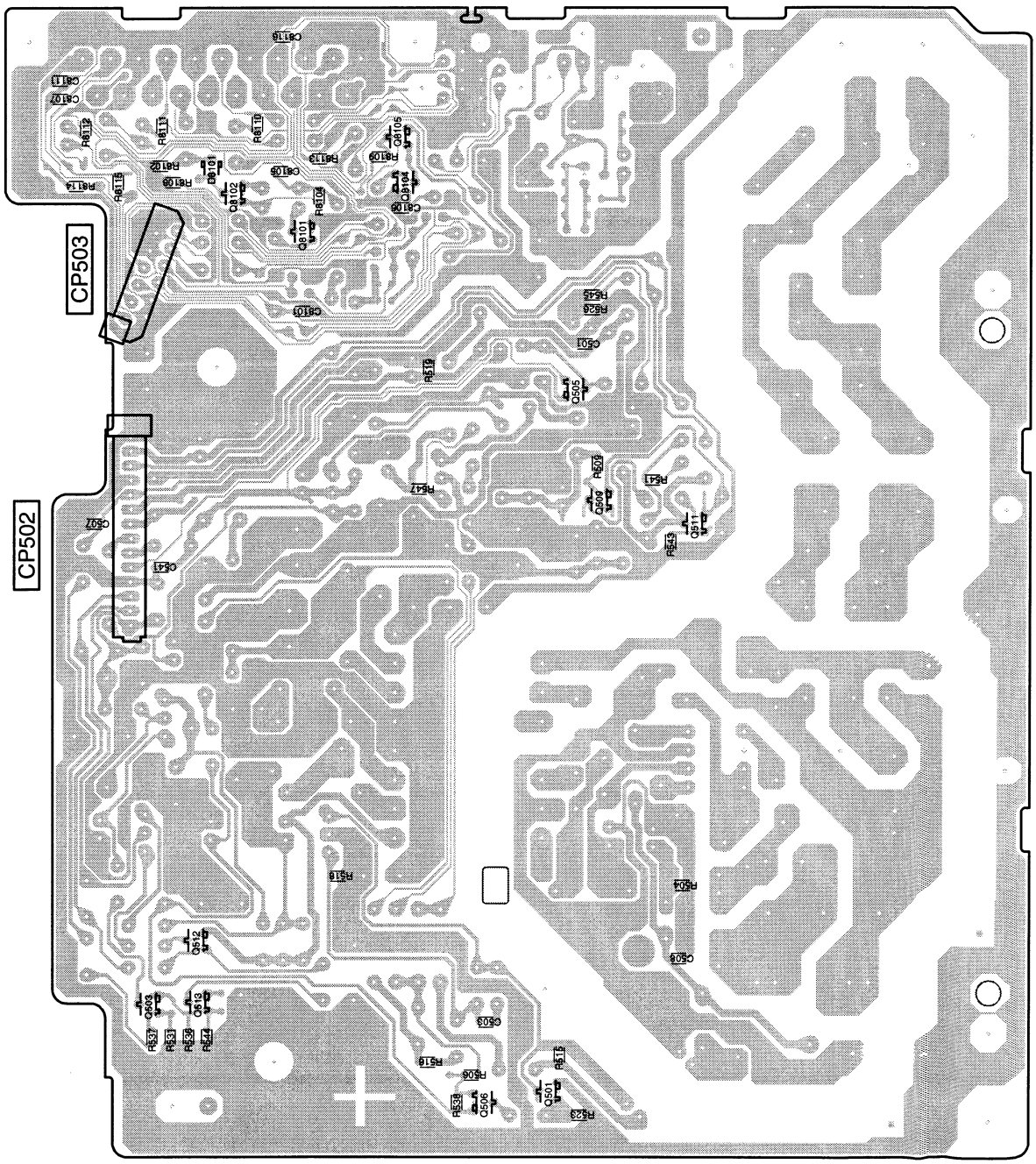
4.4 POWER PCB ASSY

SIDE A



SIDE B

F POWER PCB ASSY



5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω → 56 x 10¹ → 561 ····· RD1/4PU 5 6 1 J
47k Ω → 47 x 10³ → 473 ····· RD1/4PU 4 7 3 J
0.5 Ω → R50 ····· RN2H R 5 0 K
1 Ω → 1R0 ····· RS1P 1 R 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 x 10¹ → 5621 ····· RN1/4PC 5 6 2 1 F

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
	1	..DVD MT PCB ASSY	A2G502A130
	1	..OPERATION PCB ASSY	A2G501A270
	1	..OPERATION 2 PCB ASSY	A2G501A280
	1	..OPERATION 3 PCB ASSY	A2G501ADF0
	1	..POWER PCB ASSSY	A2G502A240
NSP	1	..DVD MECHA ASSY	A2F101A650
	2	..LOADING PCB ASSY	A2F101A610
	2	..SW PCB ASSY	A2F101A640

A DVD MT PCB ASSY

SEMICONDUCTORS

No.			Part No.
IC2301	IC	LA6565-TE-L-E	I03F065650
IC4001	IC	BR24L16FJ-WE2	I57F04L160
IC4002	IC	MT1389FE/C2-L	IC8K0389C0
IC4003	IC	BD5229G-TR	I97F052290
IC4004	IC	S29AL016D70TFI020	S2G502AF10
IC4005	IC	K4S641632H-UC75	IFLJ0632H7
IC4006	IC	SIP1117L-ADJ-TP	I1HF9117L0
IC8001	IC	SN74CBT3257PWR	I5CJ032570
IC8002	IC	MM1623BFBE	I0UFG623B0
IC8003	IC	BA4560F-E2	I07F045600
IC8004	IC	PCM1742KEG/2K	I17F02KEG0
Q2301		KTC3875S_Y_RTK	TCAA3875SY
Q2302		KTA1504S_Y_RTK	TAAA1504SY
Q2303		KTA1504S_Y_RTK	TAAA1504SY
Q2304		KTA1504S_Y_RTK	TAAA1504SY
Q2305		KTA1504S_Y_RTK	TAAA1504SY
Q2306		FET 2SK3018T106	T27T030180
Q2307		FET 2SK3018T106	T27T030180
Q8005		KTC3875S_Y_RTK	TCAA3875SY
Q8010		DTC114YUAT106	TN7J407001
Q8013		DTC114YUAT106	TN7J407001
Q8014		KTA1504S_Y_RTK	TAAA1504SY
Q8016		KTC3875S_Y_RTK	TCAA3875SY
Q8018		2SD2114KT146	T97A021140
Q8019		2SD2114KT146	T97A021140
Q8020		2SD2114KT146	T97A021140
Q8021		2SD2114KT146	T97A021140
D8005		UDZS6.8B TE-17	DE7RB6R82B
D8007		1SS355 TE-17	DD7R0S3550

CAPACITORS

No.			Part No.
C2301	CC	0.1 UF 25V B	CS0PB0315K
C2302	CC	0.1 UF 25V B	CS0PB0315K
C2303	CC	0.1 UF 25V B	CS0PB0315K
C2305	CC	0.1 UF 25V B	CS0PB0315K
C2306	CE	100 UF 10V	E02LU1101M
C2307	CC	1 UF 10V B	CS0PB0N16K
C2308	CC	0.1 UF 25V B	CS0PB0315K
C2309	CC	0.1 UF 25V B	CS0PB0315K
C2310	CC	0.01 UF 50V B	CS0PB0414K
C2311	CC	0.01 UF 50V B	CS0PB0414K
C2312	CC	1 UF 10V B	CS0PB0N16K
C2313	CC	0.01 UF 50V B	CS0PB0414K
C2314	CC	1 UF 10V B	CS0PB0N16K
C2320	CE	100 UF 10V	E02LU1101M
C2321	CE	100 UF 10V	E02LU1101M
C2322	CC	0.0022UF 50V B	CS0PB04H3K
C2323	CC	0.1 UF 25V B	CS0PB0315K
C2325	CC	0.001 UF 50V B	CS0PB0413K
C4001	CC	0.0022UF 50V B	CS0PB04H3K
C4002	CC	270 PF 50V CH	CS0PCH4K2J
C4003	CC	150 PF 50V CH	CS0PCH4E2J
C4005	CC	0.1 UF 25V B	CS0PB0315K
C4007	CC	0.1 UF 25V B	CS0PB0315K
C4008	CC	0.1 UF 25V B	CS0PB0315K
C4009	CC	0.015 UF 50V B	CS0PB04E4K
C4012	CC	0.1 UF 25V B	CS0PB0315K
C4013	CC	0.1 UF 25V B	CS0PB0315K
C4014	CC	1 UF 10V B	CS0PB0N16K
C4015	CC	1 UF 10V B	CS0PB0N16K
C4016	CC	1 UF 10V B	CS0PB0N16K
C4017	CC	1 UF 10V B	CS0PB0N16K
C4019	CC	0.1 UF 25V B	CS0PB0315K
C4020	CC	0.1 UF 25V B	CS0PB0315K
C4021	CC	0.1 UF 25V B	CS0PB0315K
C4022	CC	0.1 UF 25V B	CS0PB0315K
C4023	CE	220 UF 6.3V	E02LU0221M
C4024	CC	0.0015UF 50V B	CS0PB04E3K
C4025	CC	0.1 UF 25V B	CS0PB0315K
C4026	CC	0.1 UF 25V B	CS0PB0315K
C4027	CC	0.1 UF 25V B	CS0PB0315K
C4028	CC	0.1 UF 25V B	CS0PB0315K
C4030	CC	0.1 UF 25V B	CS0PB0315K
C4031	CC	0.033 UF 25V B	CS0PB03L4K
C4032	CC	0.1 UF 25V B	CS0PB0315K
C4033	CC	0.001 UF 50V B	CS0PB0413K

Mark No.	Description	Part No.
C4034	CC 22 PF 50V CH	CS0PCH4H1J
C4035	CC 0.1 UF 25V B	CS0PB0315K
C4039	CC 1 UF 10V B	CS0PB0N16K
C4040	CC 1 UF 16V B	CS0PB0216K
C4041	CC 0.1 UF 25V B	CS0PB0315K
C4042	CC 0.047 UF 25V B	CS0PB03Q4K
C4043	CC 0.1 UF 25V B	CS0PB0315K
C4044	CC 0.047 UF 25V B	CS0PB03Q4K
C4045	CC 0.47 UF 10V B	CS0PB0NQ5K
C4046	CE 10 UF 25 V	E50HU3100M
C4047	CC 390 PF 50V CH	CS0PCH4N2J
C4048	CC 10 PF 50V CH	CS0PCH411D
C4049	CC 11 PF 50V CH	CS0PCH4A1J
C4050	CC 0.1 UF 25V B	CS0PB0315K
C4052	CC 0.01 UF 50V B	CS0PB0414K
C4053	CC 0.1 UF 25V B	CS0PB0315K
C4054	CC 220 PF 50V CH	CS0PCH4H2J
C4060	CC 0.1 UF 25V B	CS0PB0315K
C4061	CC 0.1 UF 25V B	CS0PB0315K
C4062	CC 0.1 UF 25V B	CS0PB0315K
C4063	CC 0.1 UF 25V B	CS0PB0315K
C4064	CC 0.1 UF 25V B	CS0PB0315K
C4066	CC 1 UF 10V B	CS0PB0N16K
C4067	CC 0.1 UF 25V B	CS0PB0315K
C4068	CC 0.1 UF 25V B	CS0PB0315K
C4071	CC 0.1 UF 25V B	CS0PB0315K
C4072	CC 0.1 UF 25V B	CS0PB0315K
C4073	CC 0.1 UF 25V B	CS0PB0315K
C4074	CC 0.1 UF 25V B	CS0PB0315K
C4076	CC 33 PF 50V CH	CS0PCH4L1J
C4077	CC 100 PF 50V CH	CS0PCH412J
C4078	CC 33 PF 50V CH	CS0PCH4L1J
C4079	CC 100 PF 50V CH	CS0PCH412J
C4080	CC 1 UF 10V B	CS0PB0N16K
C4081	CC 0.001 UF 50V B	CS0PB0413K
C4082	CC 0.1 UF 25V B	CS0PB0315K
C4084	CC 0.1 UF 25V B	CS0PB0315K
C4085	CC 0.1 UF 25V B	CS0PB0315K
C4086	CE 1000 UF 6.3V	E02LT0102M
C4088	CC 0.1 UF 25V B	CS0PB0315K
C4090	CC 0.0082UF 50V B	CS0PB04W3K
C4091	CC 0.0022UF 50V B	CS0PB04H3K
C4093	CC 1 UF 10V B	CS0PB0N16K
C4094	CC 0.1 UF 25V B	CS0PB0315K
C4095	CE 47 UF 6.3V	E50HU0470M
C4096	CC 1 UF 10V B	CS0PB0N16K
C4098	CC 1 UF 10V B	CS0PB0N16K
C4099	CC 0.001 UF 50V B	CS0PB0413K
C4100	CE 220 UF 6.3V	E02LU0221M
C4101	CC 0.1 UF 25V B	CS0PB0315K
C4102	CC 0.1 UF 25V B	CS0PB0315K
C4103	CC 0.1 UF 25V B	CS0PB0315K
C4104	CC 1 UF 10V B	CS0PB0N16K
C4105	CC 1 UF 10V B	CS0PB0N16K
C4109	CC 0.1 UF 25V B	CS0PB0315K
C4110	CC 100 PF 50V CH	CS0PCH412J
C4112	CC 0.001 UF 50V B	CS0PB0413K
C4114	CC 1 UF 10V B	CS0PB0N16K
C4116	CC 100 PF 50V CH	CS0PCH412J

Mark No.	Description	Part No.
C8001	CC 0.1 UF 25V B	CS0PB0315K
C8002	CC 1 UF 10V B	CS0PB0N16K
C8003	CC 1 UF 10V B	CS0PB0N16K
C8004	CC 0.1 UF 25V B	CS0PB0315K
C8005	CC 0.1 UF 25V B	CS0PB0315K
C8006	CC 1 UF 10V B	CS0PB0N16K
C8008	CC 0.1 UF 25V B	CS0PB0315K
C8010	CC 0.1 UF 25V B	CS0PB0315K
C8014	CE 100 UF 10V	E02LU1101M
C8015	CC 0.1 UF 25V B	CS0PB0315K
C8016	CC 0.1 UF 25V B	CS0PB0315K
C8017	CE 100 UF 10V	E02LU1101M
C8021	CC 0.1 UF 25V B	CS0PB0315K
C8022	CE 1000 UF 6.3V	E02LT0102M
C8023	CE 470 UF 6.3V	E02LU0471M
C8024	CE 470 UF 6.3V	E02LU0471M
C8025	CE 470 UF 6.3V	E02LU0471M
C8026	CE 1000 UF 6.3V	E02LT0102M
C8036	CC 1 UF 10V B	CS0PB0N16K
C8038	CE 1 UF 50V	E50HU5010M
C8042	CC 100 PF 50V CH	CS0PCH412J
C8046	CC 100 PF 50V CH	CS0PCH412J
C8051	CE 100 UF 10V	E02LU1101M
C8053	CE 100 UF 10V	E02LU1101M
C8056	CC 560 PF 50V CH	CS0PCH4S2J
C8057	CC 560 PF 50V CH	CS0PCH4S2J
C8058	CC 0.1 UF 25V B	CS0PB0315K
C8059	CC 0.1 UF 25V B	CS0PB0315K
C8061	CE 1000 UF 6.3V	E02LT0102M
C8062	CC 1 UF 10V B	CS0PB0N16K
C8063	CC 0.1 UF 25V B	CS0PB0315K
C8066	CE 100 UF 10V	E02LU1101M
C8067	CC 100 PF 50V CH	CS0PCH412J
C8068	CC 0.1 UF 25V B	CS0PB0315K
C8069	CC 100 PF 50V CH	CS0PCH412J
C8070	CE 47 UF 16V	E02LU2470M
C8072	CC 0.1 UF 25V B	CS0PB0315K
C8073	CE 47 UF 16V	E02LU2470M
C8074	CC 330 PF 50V CH	CS0PCH4L2J
C8075	CC 0.1 UF 25V B	CS0PB0315K
C8076	CE 100 UF 10V	E02LU1101M
C8077	CC 330 PF 50V CH	CS0PCH4L2J
C8078	CC 330 PF 50V CH	CS0PCH4L2J

RESISTORS

R2306	RC 100K OHM 1/16W	R803R9104J
R2307	RC 100K OHM 1/16W	R803R9104J
R2308	RC 10K OHM 1/16W	R803R9103J
R2309	RC 10K OHM 1/16W	R803R9103J
R2310	RC 2.7K OHM 1/16W	R803R9272J
R2311	RC 10K OHM 1/16W	R803R9103J
R2312	RC 15K OHM 1/16W	R803R9153F
R2313	RC 10K OHM 1/16W	R803R9103F
R2316	RC 10K OHM 1/16W	R803R9103F
R2317	RC 56K OHM 1/16W	R803R9563F
R2318	RC 10K OHM 1/16W	R803R9103F
R2319	RC 150K OHM 1/16W	R803R9154J
R2320	RC 4.7 OHM 1/16W	R803R94R7J
R2321	RC 4.7 OHM 1/16W	R803R94R7J
R2322	RC 4.7 OHM 1/16W	R803R94R7J

Mark No.	Description	Part No.	Mark No.	Description	Part No.
	R2323 RC 4.7 OHM 1/16W	R803R94R7J	R4084	RC 1K OHM 1/16W	R803R9102J
	R2325 RC 15K OHM 1/16W	R803R9153F	R4087	RC 10K OHM 1/16W	R803R9103J
A	R2326 RC 4.7K OHM 1/16W	R803R9472J	R8014	RC 3.9K OHM 1/16W	R803R9392J
	R2327 RC 4.7K OHM 1/16W	R803R9472J	R8016	RC 1.2K OHM 1/16W	R803R9122J
	R2328 RC 10K OHM 1/16W	R803R9103F	R8017	RC 1.2K OHM 1/16W	R803R9122J
	R2329 RC 1 OHM 1/16W	R803R9010J	R8018	RC 1.2K OHM 1/16W	R803R9122J
	R2330 RC 10K OHM 1/16W	R803R9103F	R8021	RC 10K OHM 1/16W	R803R9103J
	R2331 RC 150K OHM 1/16W	R803R9154J	R8023	RC 75 OHM 1/16W	R803R9750F
	R2332 RC 1.2 OHM 1/16W	R803R91R2J	R8024	RC 75 OHM 1/16W	R803R9750F
	R2333 RC 1.2 OHM 1/16W	R803R91R2J	R8026	RC 75 OHM 1/16W	R803R9750F
	R2334 RC 2.2 OHM 1/16W	R803R92R2J	R8027	RC 75 OHM 1/16W	R803R9750F
	R2335 RC 2.2 OHM 1/16W	R803R92R2J	R8028	RC 75 OHM 1/16W	R803R9750F
	R2337 RC 5.6K OHM 1/16W	R803R9562J	R8029	RC 75 OHM 1/16W	R803R9750F
B	R2338 RC 10K OHM 1/16W	R803R9103J	R8035	RC 2.2K OHM 1/16W	R803R9222J
	R2342 RC 680K OHM 1/16W	R803R9684J	R8036	RC 3.9K OHM 1/16W	R803R9392J
	R4001 RC 1K OHM 1/16W	R803R9102J	R8037	RC 1.8K OHM 1/16W	R803R9182J
	R4002 RC 10K OHM 1/16W	R803R9103J	R8038	RC 220 OHM 1/16W	R803R9221J
	R4003 RC 680K OHM 1/16W	R803R9684J	R8039	RC 68 OHM 1/16W	R803R9680J
	R4005 RC 100 OHM 1/16W	R803R9101J	R8040	RC 100K OHM 1/16W	R803R9104J
	R4007 RC 100 OHM 1/16W	R803R9101J	R8044	RC 10K OHM 1/16W	R803R9103J
	R4011 RC 10K OHM 1/16W	R803R9103J	R8046	RC 2.2K OHM 1/16W	R803R9222J
	R4012 RC 10K OHM 1/16W	R803R9103J	R8048	RC 270K OHM 1/16W	R803R9274J
	R4013 RC 10K OHM 1/16W	R803R9103J	R8049	RC 10K OHM 1/16W	R803R9103F
	R4014 RC 10K OHM 1/16W	R803R9103J	R8051	RC 3.9K OHM 1/16W	R803R9392J
C	R4015 RC 10K OHM 1/16W	R803R9103J	R8054	RC 2.2K OHM 1/16W	R803R9222J
	R4016 RC 15K OHM 1/16W	R803R9153J	R8056	RC 4.7K OHM 1/16W	R803R9472J
	R4017 RC 22K OHM 1/16W	R803R9223J	R8057	RC 100 OHM 1/16W	R803R9101J
	R4018 RC 22K OHM 1/16W	R803R9223J	R8059	RC 10K OHM 1/16W	R803R9103F
	R4019 RC 22K OHM 1/16W	R803R9223J	R8060	RC 270K OHM 1/16W	R803R9274J
	R4020 RC 15K OHM 1/16W	R803R9153J	R8061	RC 10K OHM 1/16W	R803R9103F
	R4022 RC 100K OHM 1/16W	R803R9104J	R8063	RC 18K OHM 1/16W	R803R9183F
	R4024 RC 750K OHM 1/16W	R803R9754J	R8065	RC 10 OHM 1/16W	R803R9100J
	R4025 RC 100K OHM 1/16W	R803R9104J	R8066	RC 10K OHM 1/16W	R803R9103F
	R4026 RC 10K OHM 1/16W	R803R9103J	R8067	RC 18K OHM 1/16W	R803R9183F
	R4027 RC 100 OHM 1/16W	R803R9101J	R8069	RC 680K OHM 1/16W	R803R9684J
D					
	R4033 RC 10K OHM 1/16W	R803R9103J	R8070	RC 33 OHM 1/16W	R803R9330J
	R4034 RC 33 OHM 1/16W	R803R9330J	R8073	RC 22K OHM 1/16W	R803R9223J
	R4035 RC 33 OHM 1/16W	R803R9330J	R8074	RC 22K OHM 1/16W	R803R9223J
	R4036 RC 33 OHM 1/16W	R803R9330J	R8076	RC 470 OHM 1/16W	R803R9471J
	R4037 RC 15 OHM 1/16W	R803R9150J	R8077	RC 220 OHM 1/16W	R803R9221F
	R4039 RC 68 OHM 1/16W	R803R9680F	R8078	RC 470 OHM 1/16W	R803R9471J
	R4043 RC 33 OHM 1/16W	R803R9330J	R8079	RC 220 OHM 1/16W	R803R9221F
	R4044 RC 39 OHM 1/16W	R803R9390F	R8080	RC 220 OHM 1/16W	R803R9221F
	R4046 RC 10 OHM 1/16W	R803R9100J	R8081	RC 470 OHM 1/16W	R803R9471J
	R4047 RC 33 OHM 1/16W	R803R9330J	R8082	RC 220 OHM 1/16W	R803R9221F
E					
	R4050 RC 33 OHM 1/16W	R803R9330J	R8083	RC 470 OHM 1/16W	R803R9471J
	R4051 RC 33 OHM 1/16W	R803R9330J	R8084	RC 220 OHM 1/16W	R803R9221F
	R4052 RC 10K OHM 1/16W	R803R9103J	R8085	RC 220 OHM 1/16W	R803R9221F
	R4054 RC 10K OHM 1/16W	R803R9103J	W13809	RC 0 OHM 1/16W	R803R9000J
	R4061 RC 2.7K OHM 1/16W	R803R9272F	W13811	RC 0 OHM 1/16W	R803R9000J
	R4062 RC 15K OHM 1/16W	R803R9153J	W13812	RC 0 OHM 1/16W	R803R9000J
	R4064 RC 150 OHM 1/16W	R803R9151F	W13813	RC 0 OHM 1/16W	R803R9000J
	R4065 RC 150 OHM 1/16W	R803R9151F	W13814	RC 0 OHM 1/16W	R803R9000J
	R4066 RC 150 OHM 1/16W	R803R9151F	W13815	RC 0 OHM 1/16W	R803R9000J
	R4067 RC 150 OHM 1/16W	R803R9151F	W13816	RC 0 OHM 1/16W	R803R9000J
	R4068 RC 150 OHM 1/16W	R803R9151F	W13817	RC 0 OHM 1/16W	R803R9000J
F	R4069 RC 150 OHM 1/16W	R803R9151F	W13819	RC 0 OHM 1/16W	R803R9000J
	R4070 RC 33 OHM 1/16W	R803R9330J	W13820	RC 0 OHM 1/16W	R803R9000J
	R4071 RC 33 OHM 1/16W	R803R9330J	W13824	RC 0 OHM 1/16W	R803R9000J
	R4082 RC 33 OHM 1/16W	R803R9330J	W13829	RC 0 OHM 1/16W	R803R9000J

Mark No.	Description	Part No.
W13832	RC 0 OHM 1/16W	R803R9000J
W13833	RC 0 OHM 1/16W	R803R9000J
W13834	RC 0 OHM 1/16W	R803R9000J
W13847	RC 0 OHM 1/16W	R803R9000J
W13848	RC 0 OHM 1/16W	R803R9000J
W13850	RC 0 OHM 1/16W	R803R9000J
W13851	RC 0 OHM 1/16W	R803R9000J
W13852	RC 0 OHM 1/16W	R803R9000J
W13853	RC 0 OHM 1/16W	R803R9000J
W13866	RC 0 OHM 1/16W	R803R9000J
W13870	RC 0 OHM 1/16W	R803R9000J

OTHERS

B4001	CORE,BEADS	0246C51024
B4002	CORE,BEADS	0246C51024
B4007	CORE,BEADS	0246C51024
B8001	CORE,BEADS	0246C51024
B8002	CORE,BEADS	0246C51024
B8003	CORE,BEADS	0246C51024
B8004	CORE,BEADS	0246C51024
B8006	CORE,BEADS	0246C51024
B8007	CORE,BEADS	0246C51024
CP2301	CONNECTOR PCB SIDE	069GYOT119
CP2302	CONNECTOR PCB SIDE	069EV53030
CP2303	CONNECTOR PCB SIDE	069EV63030
CP4002	CONNECTOR PCB SIDE	069EVB3030
CP4003	CONNECTOR PCB SIDE	069S2E0629
CP8001	CONNECTOR PCB SIDE	069J7C0599
J8001	RCA JACK	060J451008
J8002	JACK	063D700008
J8003	RCA JACK	060J411034
J8004	RCA JACK	060J401102
NR4001	R,NETWORK	110P4330M4
NR4002	R,NETWORK	110P4330M4
X4001	CRYSTAL	100BT02701
PCB130	PCB DME025A	13DME025AC

B OPERATION PCB ASSY

SEMICONDUCTORS

IC651	IC PT6315	PT6315
D651	1SS133T-77	D1VT001330
D652	1SS133T-77	D1VT001330
D654	1SS133T-77	D1VT001330
D655	1SS133T-77	D1VT001330
D656	1SS133T-77	D1VT001330
D657	1SS133T-77	D1VT001330
D658	1SS133T-77	D1VT001330
D659	1SS133T-77	D1VT001330
D669	1SS133T-77	D1VT001330

SWITCHES AND RELAYS

SW652	SWITCH TACT	0504R01T38
SW653	SWITCH TACT	0504R01T38
SW654	SWITCH TACT	0504R01T38
SW655	SWITCH TACT	0504R01T38
SW656	SWITCH TACT	0504R01T38
SW657	SWITCH TACT	0504R01T38
SW658	SWITCH TACT	0504R01T38
SW659	SWITCH TACT	0504R01T38
SW661	SWITCH TACT	0504R01T38
SW666	SWITCH TACT	0504R01T38

CAPACITORS

C651	CC 0.1 UF 25V B	CS0PB0315K
C658	CC 0.1 UF 50V B	CS0PB0415K
C659	CC 0.001 UF 50V B	CS0PB0413K
C674	CE 47 UF 6.3V	E50HU0470M
C675	CC 0.1 UF 25V B	CS0PB0315K
C676	CC 0.1 UF 25V B	CS0PB0315K

RESISTORS

R651	RC 2.2 OHM 1/16W	R803R92R2J
R652	RC 2.2 OHM 1/16W	R803R92R2J
R653	RC 2.2 OHM 1/16W	R803R92R2J
R654	RC 2.2 OHM 1/16W	R803R92R2J
R655	RC 1K OHM 1/16W	R803R9102J
R656	RC 1K OHM 1/16W	R803R9102J
R657	RC 10K OHM 1/16W	R803R9103J
R658	RC 10K OHM 1/16W	R803R9103J
R662	RC 100K OHM 1/16W	R803R9104J
R666	RC 2.2 OHM 1/4W	R002T42R2J

OTHERS

V651	TUBE FLUORESCENT	VAW1077
CD601	CORD JUMPER	122H0B1002
CD602	CORD JUMPER	122H092801
CD604	CORD JUMPER	122H051001
CP601	CONNECTOR PCB SIDE	069EVB3050
CP602	CONNECTOR PCB SIDE	069EV93050
W27001	JUMPER IN PCB	1230T05001
W27002	JUMPER IN PCB	1230T12501
W27003	JUMPER IN PCB	1230T05001
W27004	JUMPER IN PCB	1230T12501
W27005	JUMPER IN PCB	1230T05001
W27006	JUMPER IN PCB	1230T07501
W27007	JUMPER IN PCB	1230T07501
W27008	JUMPER IN PCB	1230T05001
W27009	JUMPER IN PCB	1230T05001
W27805	JUMPER IN PCB	1230T05001
PCB270	PCB DEE028A	13DEE028AW

C OPERATION 2 PCB ASSY

SWITCHES AND RELAYS

SW660	SWITCH TACT	0504R01 T38
SW662	SWITCH TACT	0504R01 T38
SW664	SWITCH TACT	0504R01 T38
SW665	SWITCH TACT	0504R01 T38
SW667	SWITCH TACT	0504R01 T38

OTHERS

CP605	CONNECTOR PCB SIDE	069EV53050
PCB280	PCB DEE038A	13DEE038AW

F POWER PCB ASSY

SEMICONDUCTORS

IC501	IC KIA431A-AT	I1KJ9A431A
IC502	IC STR-A6151M	I0BD06I510

Mark No.	Description	Part No.
IC503	IC PQ070XF01SZH	I0GA9XF010
IC504	PS2561AL1-1-V(W)	000220002W
Q501	KTC3875S_Y_RTK	TCAA3875SY
Q502	KTC3209_Y_AT	TCAT03209Y
Q503	KTA1504S_Y_RTK	TAAA1504SY
Q504	KTA1281_Y	TAAT01281Y
Q505	KTA102SRTK	TNAAB05003
Q506	KTA1504S_Y_RTK	TAAA1504SY
Q509	KTC3875S_Y_RTK	TCAA3875SY
Q510	KTA1281_Y	TAAT01281Y
Q511	KTC3875S_Y_RTK	TCAA3875SY
Q512	KTC3875S_Y_RTK	TCAA3875SY
Q513	KTA1504S_Y_RTK	TAAA1504SY
Q515	2SD1207(S,T)-AE	TD3T012070
Q8101	KTC3875S_Y_RTK	TCAA3875SY
Q8102	KTA1504S_Y_RTK	TAAA1504SY
Q8104	DTC144EKAT146	TNYJD05001
Q8105	DTA114EKAT146	TPYJB05001
D502	1N4005-EIC	D2WXN40050
D503	1N4005-EIC	D2WXN40050
D505	1N4005-EIC	D2WXN40050
D506	1N4005-EIC	D2WXN40050
D508	MTZJ5.6B T-77	D97U05R61B
D509	RGP10KE-G3	D2LTP10KE0
D510	RGP15J-G23	D23TGP15J0
D511	10ERB20-TA1B2	D28T0ERB20
D512	RGP15J-G23	D23TGP15J0
D513	10ERB20-TA1B2	D28T0ERB20
D515	11EQS04N-TA1B2	D28TQS04N0
D516	1SS133T-77	D1VT001330
D517	MTZJ4.3B T-77	D97U04R31B
D519	10ERB60-TA2B5	D28X0ERB60
D520	1SS133T-77	D1VT001330
D521	1SS133T-77	D1VT001330
D522	D1SS133T-77	D1VT001330
D523	MTZJ3.6B T-77	D97U03R61B
D525	1SS133T-77	D1VT001330
D527	21DQ04N-TA2B1	D28T21DQN4
D528	MTZJ5.1B T-77	D97U05R11B
D531	MTZJ27B T-77	D97U02701B
D532	11EQS04N-TA2B5	D28XQS04N0
D533	MTZJ2.2B T-77	D97U02R21B
D534	1SS133T-77	D1VT001330
D535	MTZJ5.1B T-77	D97U05R11B
D536	MTZJ3.0B T-77	D97U03R01B
D8101	1SS355 TE-17	DD7R0S3550

COILS AND FILTERS

B501	CORE,BEADS	024HT03563
L501	COIL,LINE FILTER	029X000123
L503	COIL 22 UH	02167E220K
L505	COIL 22 UH	02167E220K
L8101	COIL 10 UH	02167F100J

TRANSFORMERS

T501	TRANSFORMER,SWITCHING	0481291294

CAPACITORS

C501	CC 0.01 UF 50V F	CS0PF0414Z
C502	CMP 0.22 UF 275V ECQUL	P2122B224M
C503	CC 0.1 UF 25V B	CS0PB0315K
C505	CC 100 PF 2KV R	C0PLRR712K
C506	CE 2.2 UF 50V	E50HU52R2M
C507	CC 0.01 UF 50V F	CS0PF0414Z
C508	CC 680 PF 50V CH	CS0PCH4U2J
C509	CE 10 UF 50V	E02LU5100M
C511	CE 82 UF 400V	E51CHH820M
C513	CC 47 PF 2KV SL	CP3YSL7Q1J
C514	CC 470 PF 500V B	C0JTB05Q2K
C515	CP 0.01 UF 400V ECQP	P11104103J
C516	CC 0.0022UF 250V	CD39E0MH3M
C517	CE 220 UF 25V	E02LU3221M
C518	CC 0.001 UF 250V	CD39E0M13M
C519	CE 22 UF 35V	E02LU4220M
C520	CE 100 UF 50V	E02LT5101M
C521	CE 1000 UF 16V	E61FF2102D
C522	1000 UF 6.3V	E61FT0102D
C523	CE 25YK470MKC 470 UF 25V	E0ELF3471M
C526	CE 220 UF 6.3V	E02LU0221M
C527	CE 100 UF 10V	E02LU1101M
C528	CE 2.2 UF 50V	E50HU52R2M
C531	CE 100 UF 16V	E02LU2101M
C533	CE 100 UF 10V	E02LU1101M
C535	CE 330 UF 16V	E02LU2331M
C536	CE 220 UF 6.3V	E02LU0221M
C538	CE 220 UF 6.3V	E02LU0221M
C540	CC 0.01 UF 50V B	CQGTB0414K
C541	CC 0.01 UF 50V F	CS0PF0414Z
C8101	CC 0.01 UF 50V B	CS0PB0414K
C8105	CC 0.1 UF 25V B	CS0PB0315K
C8106	CC 0.001 UF 50V B	CS0PB0413K
C8107	CC 0.001 UF 50V B	CS0PB0413K
C8111	CC 0.001 UF 50V B	CS0PB0413K
C8112	CE 1000 UF 6.3V	E02LT0102M
C8113	CE 470 UF 6.3V	E02LU0471M
C8114	CE 470 UF 6.3V	E02LU0471M
C8115	CE 1000 UF 6.3V	E02LT0102M
C8116	CC 33 PF 50V CH	CS0PCH4L1J

RESISTORS

R502	R,METAL OXIDE 1.8 OHM 1W	R3X1811R8J
R503	RC 1.5M OHM 1/2W	R002T2155J
R504	RC 680K OHM 1/16W	R803R9684J
R505	RC 22 OHM 1/4W	R002T4220J
R506	RC 100 OHM 1/16W	R803R9101J
R507	R,FUSE 10 OHM 1/4W	R63884100J
R509	RC 1K OHM 1/16W	R803R9102J
R510	R,METAL OXIDE 3.3 OHM 1W	R3X1813R3J
R511	R,FUSE 68 OHM 1/4W	R65584680J
R512	RC 100K OHM 1/2W	R002T2104J
R513	RC 10K OHM 1/4W	R002T4103J
R514	RC 1K OHM 1/4W	R002T4102J
R515	RC 1K OHM 1/16W	R803R9102J
R516	RC 10 OHM 1/16W	R803R9100J
R517	R,METAL 1.2K OHM 1/6W	R4X5T6122F
R518	RC 3.3K OHM 1/16W	R803R9332F
R519	RC 1K OHM 1/16W	R803R9102J
R523	RC 22K OHM 1/16W	R803R9223J
R524	RC 1K OHM 1/4W	R002T4102J
R525	RC 150 OHM 1/4W	R002T4151J
R526	RC 6.8K OHM 1/16W	R803R9682F
R527	RC 100 OHM 1/4W	R002T4101J

Mark No.	Description	Part No.
R528	RC 22K OHM 1/4W	R002T4223J
R529	R,METAL OXIDE 220 OHM 1W	R3X181221J
R530	RC 560 OHM 1/4W	R002T4561J
R531	RC 10K OHM 1/16W	R803R9103J
R534	RC 100 OHM 1/4W	R002T4101J
R536	RC 10K OHM 1/16W	R803R9103J
R537	RC 1K OHM 1/16W	R803R9102J
R538	RC 22K OHM 1/16W	R803R9223J
R539	RC 4.7K OHM 1/4W	R002T4472J
R540	RC 680 OHM 1/4W	R002T4681J
R541	RC 5.6K OHM 1/16W	R803R9562F
R542	R,METAL 1K OHM 1/6W	R4X5T6102F
R543	RC 4.7K OHM 1/16W	R803R9472F
R544	RC 10K OHM 1/16W	R803R9103J
R545	RC 22K OHM 1/16W	R803R9223F
R546	R,METAL 3.3K OHM 1/6W	R4X5T6332F
R547	RC 22 OHM 1/16W	R803R9220J
R8101	RC 4.7K OHM 1/4W	R002T4472J
R8102	RC 56K OHM 1/16W	R803R9563J
R8103	RC 470 OHM 1/4W	R002T4471J
R8104	RC 6.8K OHM 1/16W	R803R9682J
R8105	RC 390 OHM 1/4W	R002T4391J
R8108	RC 8.2K OHM 1/16W	R803R9822J
R8109	RC 68 OHM 1/16W	R803R9680F
R8110	RC 75 OHM 1/16W	R803R9750F
R8111	RC 75 OHM 1/16W	R803R9750F
R8112	RC 75 OHM 1/16W	R803R9750F
R8113	RC 75 OHM 1/16W	R803R9750F
R8114	RC 220 OHM 1/16W	R803R9221F
R8115	RC 220 OHM 1/16W	R803R9221F
R8120	RC 1 OHM 1/4W	R002T4010J

OTHERS

F501	FUSE 50T016H	080NT1R604
CD8001	CORD JUMPER	122H0C3001
CP502	CORD CONNECTOR	06C32E3504
CP503	CONNECTOR PCB SIDE	069J7C0599
FH501	HOLDER,FUSE	06710T0009
FH502	HOLDER,FUSE	06710T0009
J501	SOCKET,AC	064A6A0001
J8101	SOCKET,21PIN	063D100050
W24001	JUMPER IN PCB	1230T07501
W24002	JUMPER IN PCB	1230T10001
W24003	JUMPER IN PCB	1230T05001
W24004	JUMPER IN PCB	1230T12501
W24005	JUMPER IN PCB	1230T05001
W24006	JUMPER IN PCB	1230T05001
W24007	JUMPER IN PCB	1230T15001
W24008	JUMPER IN PCB	1230T12501
W24010	JUMPER IN PCB	1230T10001
W24011	JUMPER IN PCB	1230T07501
W24012	JUMPER IN PCB	1230T05001
W24013	JUMPER IN PCB	1230T05001
W24015	JUMPER IN PCB	1230T05001
W24016	JUMPER IN PCB	1230T05001
W24017	JUMPER IN PCB	1230T10001
W24018	JUMPER IN PCB	1230T05001
W24019	JUMPER IN PCB	1230T05001
W24021	JUMPER IN PCB	1230T15001
W24023	JUMPER IN PCB	1230T07501
W24024	JUMPER IN PCB	1230T10001
W24025	JUMPER IN PCB	1230T07501
W24026	JUMPER IN PCB	1230T05001
W24027	JUMPER IN PCB	1230T05001
W24029	JUMPER IN PCB	1230T05001
W24030	JUMPER IN PCB	1230T05001
W24031	JUMPER IN PCB	1230T05001
W24032	JUMPER IN PCB	1230T05001
W24035	JUMPER IN PCB	1230T05001
W24036	JUMPER IN PCB	1230T05001
W24811	JUMPER IN PCB	1230T05001
W24814	JUMPER IN PCB	1230T05001
W24815	JUMPER IN PCB	1230T12501
W24817	JUMPER IN PCB	1230T12501
W24821	JUMPER IN PCB	1230T12501
PCB240	PCB DPE004A	13DPE004AW

G OPERATION 3 PCB ASSY

SWITCHES AND RELAYS

OS651	REMOTE RECEIVER	077A040001
SW667	SWITCH TACT	0504R01T38

CAPACITORS

C674	KA 47 UF 6.3V	E02LU0470M
C651	CC 0.1 UF 25V B	CS0PB0315K

RESISTORS

R666	RC 2.2K OHM 1/4W	R002T4222J

OTHERS

CP603	CONNECTOR PCB SIDE	069EV03050
CP604	CONNECTOR PCB SIDE	069EV53050
PCB280	PCB DEE038A	13DEE038AW

6. ADJUSTMENT

6.1 WHEN REPLACING DVD DECK

WHEN REPLACING DVD DECK

[Removing the DVD Deck]

Before removing Pick Up PCB and DVD PCB connector, short circuit the position shown in **Fig. 1** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.

[Installing the DVD Deck]

Remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

NOTE

- Before your operation, please read "PREPARATION OF SERVICING" .
- Use the Lead Free solder.
- Manual soldering conditions
  - Soldering temperature: 320 ± 20˚C
  - Soldering time: Within 3 seconds
  - Soldering combination: Sn-3.0Ag-0.5Cu
- When Soldering/Removing of solder, use the draw in equipment over the Pick Up Unit to prevent the Flux smoke from it.

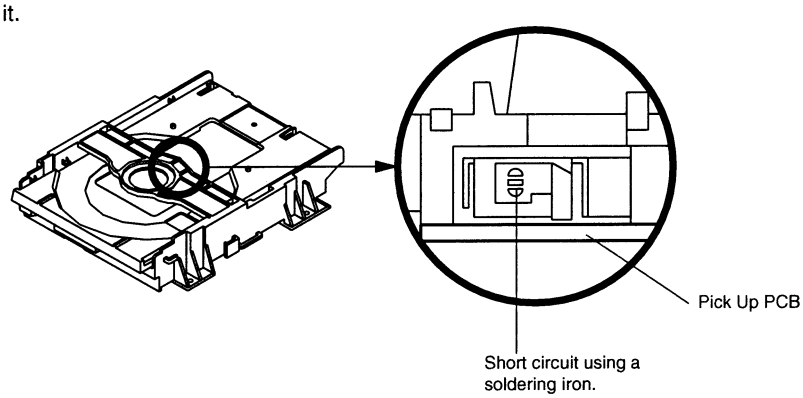
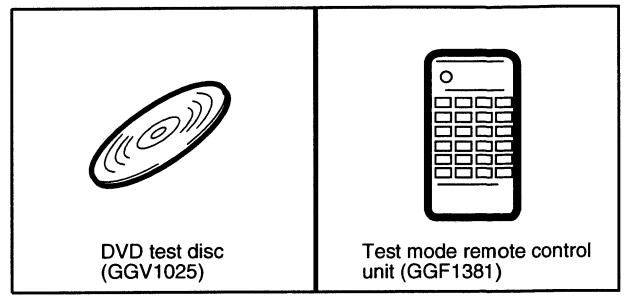
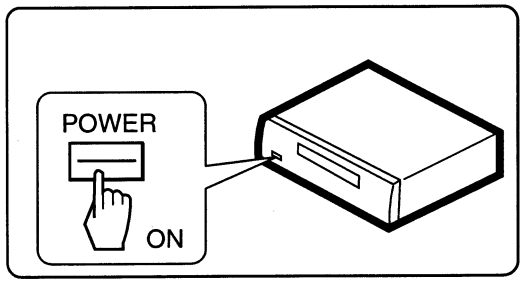


Fig. 1

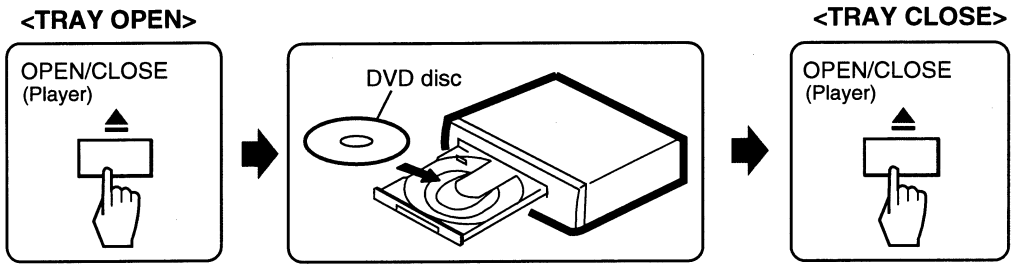
6.2 TEST MODE



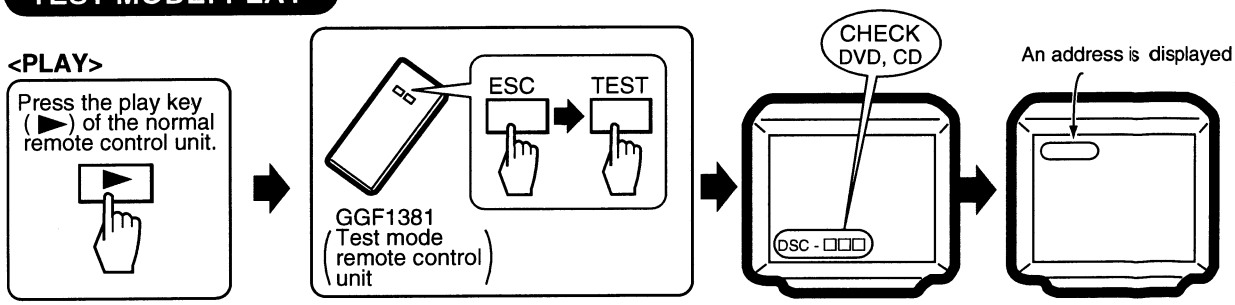
POWER ON



DISC SET

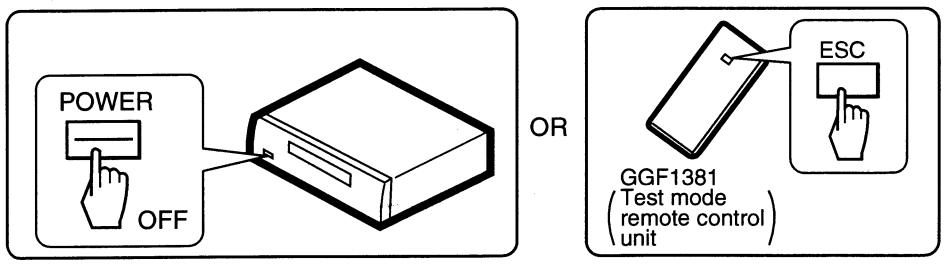


TEST MODE: PLAY



Notes:
- After going into test mode, if you play back the disc, "DISC-NON" is displayed.
- The video signal and the audio signal are outputted during the test mode.
- The SKIP key and the SCAN key are effective during the test mode.

TEST MODE: OFF



6.3 DISC REMOVAL METHOD

DISC REMOVAL METHOD AT NO POWER SUPPLY

1. Remove the Top Cabinet and Front Cabinet. **(Refer to item 1 of the DISASSEMBLY INSTRUCTIONS.)**
2. Rotate the Main Gear in the direction of the arrow by hand.
   (Refer to Fig. 1)
3. Draw the Tray.

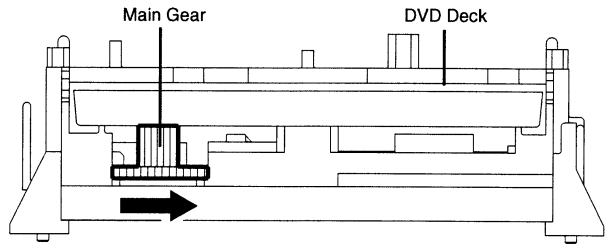


Fig. 1

PARENTAL CONTROL - RATING LEVEL

4 DIGIT PASSWORD CANCELLATION

If the stored 4 digit password in the Rating Level menu needs to be cancelled, please follow the steps below.

1. Set the DVD to the Stand-by Mode.
2. Press and hold the 'STOP' key on the front panel.
3. Simultaneously press and hold the POWER key on the front panel.
4. The 4 digit password has now been cleared.

NOTE: The above procedure will reset ALL of the player's settings to the default factory state.

PREPARATION OF SERVICING

The laser diode used for a pickup head may be destroyed with external static electricity. Moreover, even if it is operating normally after repair, when static electricity discharge is received at the time of repair, the life of the product may be shortened.
Please perform the following measure against static electricity, be careful of destruction of a laser diode at the time of repair.

- Place the unit on a workstation equipped to protect against static electricity, such as conductive mat.
- Soldering iron with ground wire or ceramic type is used.
- A worker needs to use a ground conductive wrist strap for body.

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE IN

■ Test Mode Functional Specification

① Test mode entry

In the power ON state, press the [ESC] (A8-5F) key and [TEST / RANDOM] (A8-5E) key in order of the Test mode remote control unit.

¥ Light the all FL and LEDs.

¥ OSD displays test mode.

Note:

* When pressing the keys of something, the FL displays "NO DISC" and the LED lighting disappears.

② Release the Test mode

¥ Turn off the power.

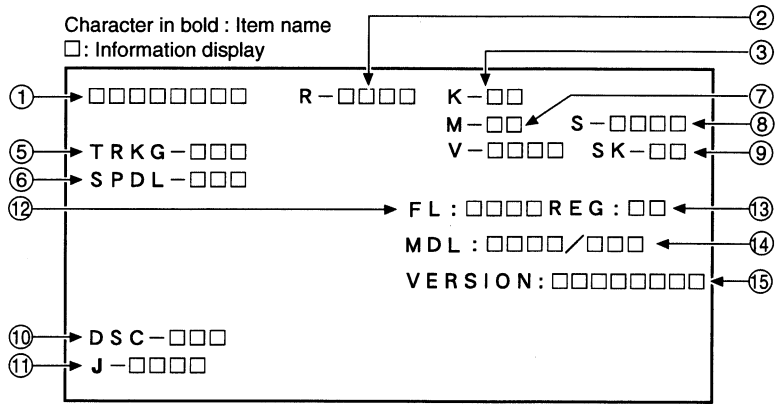
¥ Press the [ESC] (A8-5F) key of the remote control unit.

③ LD ON

DVD : Press the [TEST] (A8-5E) and [1] (A8-01) keys in order, and turn on the laser diode (650n).

CD : Press the [TEST] (A8-5E) and [4] (A8-04) keys in order, and turn on the laser diode (780n).

7.1.2 DISPLAY SPECIFICATION OF THE TEST MODE



① Address indication
The address being traced is displayed in number.
(as for the DVD, indication of decimal number is possible.)
DVD : ID indication (hexadecimal number, 8 digits)
[* * * * * * * *]
CD : ID indication [* * * * * * * *]

② Code indication of remote control unit [R – * * * *]
In case of double code, display a 2nd code.

③ Main unit keycode indication [K – * *]

⑤ Tracking status [TRKG – * * *]
Tracking on : [ON]
Tracking off : [OFF]

⑥ Spindle status [SPDL – * * *]
[OFF], [CLV]

⑦ Mechanism (loading) position value [M – * *]
Unknown : [01] or [41]
Open state : [04]
Close state : [08]
During opening : [12]
During closing : [22]

⑧ Slider position [S – * * * *]
In Side Switch ON : [01]
In Side Switch OFF : [00]

⑨ Output video system [V – * * * *]
NTSC system : [NTSC]
PAL system : [PAL]
Automatic setting : [AUTO]

Scart terminal output [SK – * *]
(Display only the WY model which can do the output setting of scart terminal.)
VIDEO : [00]
S-VIDEO : [01]
RGB : [02]

⑩ Disc sensing [DSC – * * *]
The type of discs loaded is displayed.
[DVD], [CD], [VCD], [ ]

⑪ Jitter value [J – * * * *] Note:Don't use it.

⑫ Version of the FL controller [FL: * * * *]

⑬ Region setting of the player [REG: *]
Setting value : [1] to [6]

⑭ Destination setting of the FL controller [MDL: * * * * / * * *]
Four characters in the front represent code 01.
Three characters in the back represent the destination code.
J: /J, K: /KU, /KC, /KU/KC, R: /RL/RD, RAM : /RAM, LB: /LB, WY: /WY

⑮ Version of the flash ROM [VERSION: ******]**

7.1.3 FUNCTIONAL SPECIFICATION OF THE SHORTCUT KEY

Only during normal playback, the following shortcut keys can be assigned by pressing a required key after pressing the ESC key of the remote control unit. To quit, press the ESC key

Command Contents	Conditions	Remote Control Key Name	Remote Control Code
Memory clear and region / revision indication		CLEAR (*1)	A8-45
Average value measurement of DVD error rate		5 (*1)	A8-05
CD error rate measurement		5 (*1)	A8-05
Scart terminal output : VIDEO	WY, models equipped with Scart terminal	AUDIO	AF-BE
Scart terminal output : S-VIDEO		SUBTITLE	AF-36
Scart terminal output : RGB		ANGLE	AF-B5
Progressive OFF	Only for progressive models	R_SKIP	A3-9D
Progressive ON		F_SKIP	A3-9C
ZOOM ON (X2 -> X4 -> x1)		ZOOM	AF-37
Service mode indication (error rate indication, etc.)		CHP/TIM (*1)	A8-13
Model information indication		CHAP (*1)	A8-40
Title search Input mode IN Title No. input Search execution		SIDE A (*1) Numbers (*1) PLAY (*1)	A8-4D A8-00 to A8-09 A8-17
Region confimation mode		A.MON (*1) Numbers (*1)	A8-1E A8-01 to A8-08

*1 : Test mode remote control unit

• Service mode indication (ESC + CHP/TIM keys)
ID Address
The error rate is always displayed in exponential notation, e.g., *.* * e - *, for both DVDs and CDs.
EDC/ID/AV 1 error history (ID Address, EDC/ID Error, last eight errors)

• Calculation of the average error rate (ESC + "5" [Test mode remote control unit] keys)
The average of the last eight error rates is calculated and indicated in exponential notation. After the calculation is completed, "OK" or "NG" is displayed. If "NG" is displayed, the disc tray will open (for both DVDs and CDs)
For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

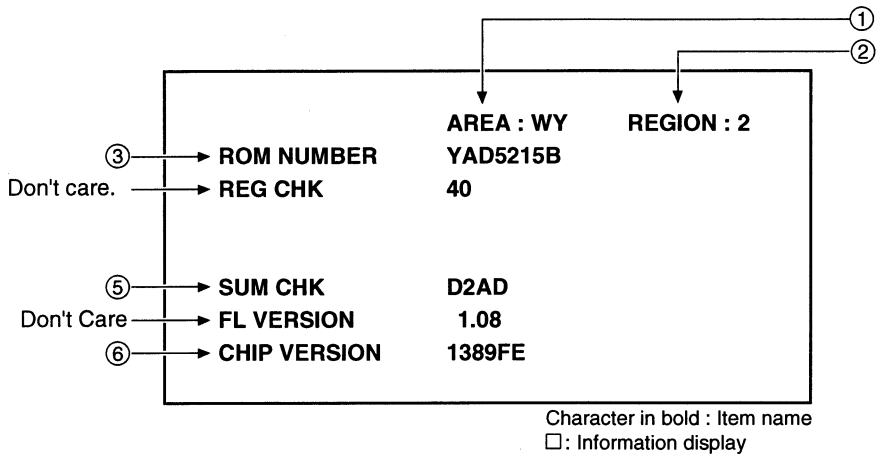
• Indication of model information (ESC + CHAP keys)
The items from 12 to 15 of the TEST MODE Indications are displayed. However, in the indications, S in the standard test mode is changed to CHIP VERSION, and M is changed to RF VERSION. For details, see 7.1.4.

• Region confirmation mode (ESC + A.MON [Test mode remote control unit] + "1"-"8" [Test mode remote control unit] keys)
After you press the A.MON key while holding the ESC key pressed and then input the region number, if the number is different from that set in the unit, an error message is displayed, and the tray opens.

7.1.4 SPECIFICATION OF MODEL INFORMATION DISPLAY

To display model information : Press the ESC key then the CHAP key.
To close the model information display : Press the ESC key.

• Display contents



Character in bold : Item name
☐: Information display

① **Destination indication**
Display it according to model information set from the FL Driver IC.

② **Region No.**

③ **ROM number**
Rom display Version.

⑤ **SUM CHK**SUM value of E2P ROM displays with four places.
Calculation range : TV_COMP_POS (65d) – LAST_TV_SYSTEM_POS (151d)

⑥ **CHIP VERSION**

7.1.5 FUNCTIONAL SPECIFICATION OF THE SERVICE MODE

• Display during Service Mode

To enter Service Mode, press the CHP/TIM key while holding the ESC key pressed.
To quit, press the ESC key.

Service mode display

① ID Address
② Error rate (always displayed), in exponential notation

ERROR RATE : * * * * * * *
(* * * *)
Number of error

• Calculation of the average error rate
For DVDs: OK with 5.0e-4 or less, for CDs: OK with 7.6e-3 or less

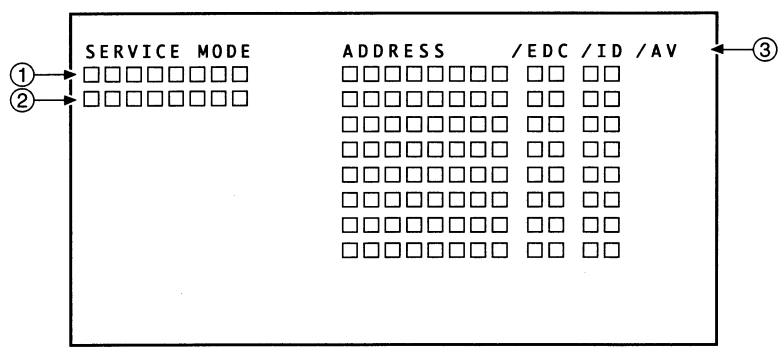
ex) For DVDs

• Step 1		• Step 2	
△△e -□		△△e -4	
△△e -6	: OK	3.0e -4	: OK
△△e -5	: OK	4.0e -4	: OK
△△e -4	: Refer to Step 2	5.0e -4	: OK
△△e -3	: NG	6.0e -4	: NG
△△e -2	: NG	7.0e -4	: NG

③ EDC/ID error history (ID Address, EDC/ID errors, last eight errors)

Note:
* Error of AV1 is not supported in this player.

Indication plan contents



Character in bold : Item name
□: Information display

7.1.6 METHOD FOR DIAGNOSING DEGRADATION OF THE LDS ON THE PICKUP ASSY

Case when this diagnosis is required :
When playback of any disc, including a test disc (DVD: GGV1025, CD: STD-905), cannot be performed

■ How to diagnose

In the case mentioned above, degradation of the laser diodes (LDs) mounted on the PICKUP Assy is suspected.
Measure the voltage between the two ends of one of the resistors mentioned below.

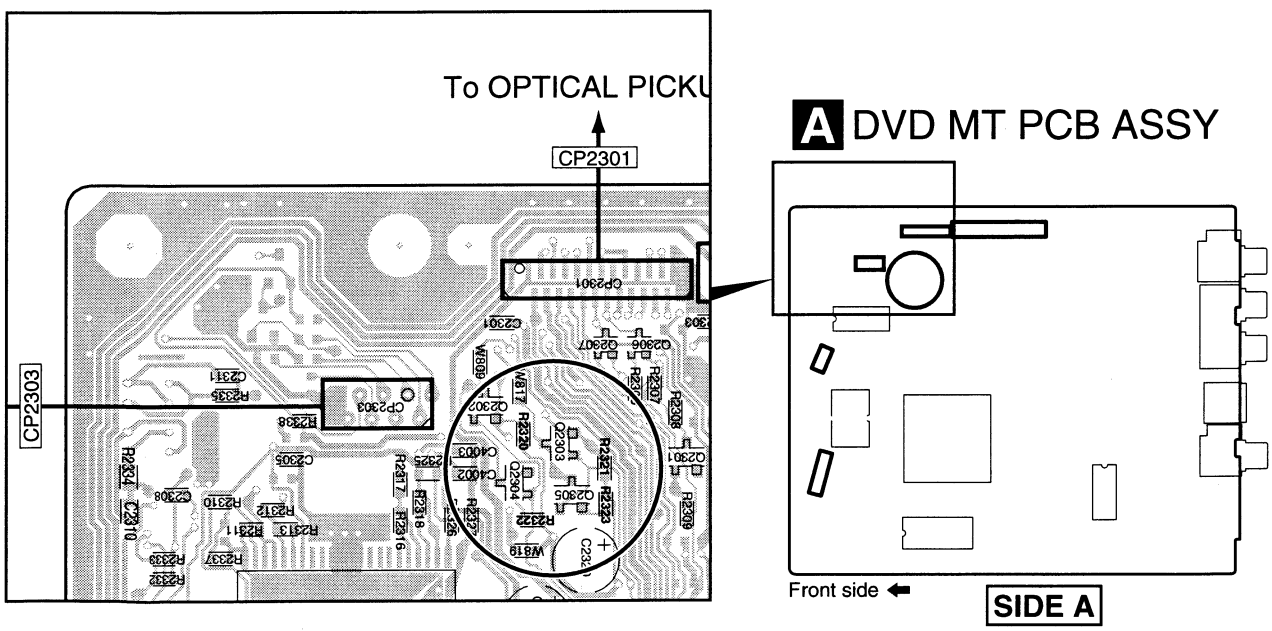
- **No playback of a DVD :**

  Measure the voltage between the two ends of R2321 or R2323 on the DVDM Assy. If the voltage is 0.4 V or higher, the 650-nm LD is degraded.

- **No playback of a CD :**

  Measure the voltage between the two ends of R2320 or R2322 on the DVDM Assy. If the voltage is 0.4 V or higher, the 780-nm LD is degraded.

If the measurements show degradation of an LD, replace the PICKUP Assy.



7.1.7 TROUBLE SHOOTING

No.	Symptoms	Diagnosis Contents	Possible Defective Points
1	The power is not turned on.	Check the voltage of AT+3.3V, –28V and FLDC on the POWER SUPPLY Unit.	**POWER PCB ASSY**
		Are wires of output connector (POWER PCB ASSY) and CP4003 (DVDM Assy) disconnected or damaged ?	Connector / cable
		Check that the voltage at IC651-pin 10 (K 1) on the FLKY Assy becomes about 2.7V when the POWER key is pressed and 0 V when it is released.	**OPERATION 2 Assy** Tact SW (when operation of only the POWER key on the main unit is not accepted)
		Check that the voltage at OS651-pin 1 (IR) on the OPERATION1 Assy is in the range between 0 and 3.3 V while receiving signals from the remote control unit when any key on it is pressed.	**FLKY Assy** Remote receiver section (when operation of only the POWER key on the remote control unit is not accepted)
2	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	• Check the voltage of E+6.8V and SW+3.3V on the POWER SUPPLY Unit. • Check the voltage of P.ON-H is about 2.8V on the POWER SUPPLY Unit.	**POWER SUPPLY Unit**
		Check that the following voltage are output : IC4006-pin 5 : 1.8V, on the DVD MT PCB Assy.	**DVD MT PCB Assy** 1.8V Regulator IC (IC4006)
		Is a resonator (X4001 : 27MHz) on the DVDM Assy oscillating ?	**DVD MT PCB Assy** Crystal resonator (X4001)
		• Is a signal input into IC603-pin26 (PCE#) on the DVDM Assy ? (Is a signal "H" for 80 mS and then "L" after the power is turned on ?) → Communication with flash ROM. • Are the signals input into IC4005-pin 16 (DWE#), pin 19 (DCS#) and pin 38 (SDCLK) on the DVDM Assy ? (Is a signal fluctuating ?) → Communication with SDRAM	**DVD MT PCB Assy** DVD IC (IC4002) Flash ROM (IC4004) SDRAM (IC4005)
		Is a signal output from IC4004-pin 28 (PRD#) on the DVD MT Assy? (Is a signal fluctuating for several hundred mS after the power is turned on ?)	**DVD MT PCB Assy** Flash ROM (IC4004)
		Are the signals of IC4001-pin 5(SDA) and pin 6(SCL) on the DVDM Assy fluctuating for one or two seconds after the power is turned ?	**DVD MT PCB Assy** EEPROM (IC4001)
3	An opening screen is not displayed on the monitor (The FL display lights. The mechanism does not work.)	Check the video signal path between DVD IC (DVD MT Assy IC4002) and video-out terminal (see the block diagram)	**DVD MT PCB Assy** Video circuit after DVD IC (IC4002)

No.	Symptoms	Diagnosis Contents	Possible Defective Points
4	A tray cannot be opened. (An opening screen is displayed on the monitor)	Does the voltage of CP2302-pin 3 and pin 1 on the DVD MT Assy change normally ? Pin 5 (SW2(TRIN)): Tray is fully closed: "L" Pin 3 (SW1(TROUT)): Tray is fully opened: "L"	Tray SW
		Is a LOAD-DRV signal reaching ?	**DVD MT PCB Assy** DVD IC (IC4002)
		Are the signals output from IC101-pin 36 and pin 37 (CN103-pin 1 and pin 2) on the DVDM Assy ? Pin 4: Approx. 45V during opening tray approx. 0V during closing tray. Pin 5: Approx. 0V during opening tray approx. 4.5V during closing tray.	**DVD MT PCB Assy** FTS Driver IC (IC2301)
		Are wires of CP2302 and CP2303 on the DVDM Assy disconnected or damaged ?	Connector / cable
		Does the voltage of CD2301-pin 5 change by pressing the Inside switch.	Inside switch
5	Playback impossible (no focusing)	Are the signals output from IC2301-pin 9 (F+) and pin 8 (F–) on the DVDM Assy ?	**DVD MT PCB Assy** FTS Driver IC (IC2301)
		Does 650-nm LD emit light ? Does a pickup lens move up / down ? Does an actuator spring bend ?	Pickup
		Are plastic parts damaged ? Or is a shaft detached ? Is the turntable detached or tilted ?	Mechanism section (motor)
		Is flexible cable of CP2301 on the DVD MT Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC4002-pin 42 (FOSO) on the DVDM Assy ? (Device control of about 1.4 V is output usually. It is fluctuated by about ± 250 mV with focus up / down.)	**DVD MT PCB Assy** DVD IC (IC4002)
6	Playback impossible (Spindle does not turn)	Are the signals output from IC2301-pin 10 (MOT SPDL–), and pin 11 (MOT SPDL+) on the DVD MT Assy ? Is pin 33,34 (STBY) fixed LOW?	**DVD MT PCB Assy** FTS Driver IC (IC2301)
		Is there any part detached from the spindle motor ? Or Is there any foreign object lodged in it ?	Mechanism section (Spindle motor)
		Are wires of CP2303 on the DVD MT Assy disconnected or damaged ?	Flexible cable / connector
		Is signal output from IC4002-pin 37 (DMSO) on the DVDM Assy ?	**DVD MT PCB Assy** DVD IC (IC4002)
7	Playback impossible (Playback stops)	Does 650-nm LD deteriorate ? If the voltage at each both ends of R2303 and R2305 on the DVD MT Assy is 0.4 V or more, the 650-nm LD is definitely deteriorated.	650-nm LD deteriorated. (When playback of a DVD is impossible)
		Does 780-nm LD deteriorate ? If the voltage at each both ends of R2302 and R2304 on the DVD MT Assy is 0.4 V or more, the 780-nm LD is definitely deteriorated.	780-nm LD deteriorated. (When playback of a CD is impossible)
		Are there scratches or dirt on the disc ?	Disc
8	Picture disturbance during playback (block noise, freeze, other)	Are there scratches or dirt on the disc ? Is there a problem with the format of the disc ?	Disc
9	No sound (Picture is normal)	Check the waveform (ABCK, ALRCK, ACLK, ASDATA).	**DVD MT PCB Assy** DVD IC (IC4002)
		Is signal output from IC8004-pin 7 and pin 8 on the DVD MT Assy ?	**DVD MT PCB Assy** Audio Dac IC (IC8004)

● Symptoms That May Occur When Any Of The Following ICs Is In Failure

IC	Symptoms
EEP ROM (DVD MT Assy : IC4001)	User's data cannot be stored in memory. The ID number is lost.
16M Flash ROM (DVD MT Assy : IC4004)	The power cannot be turned on. Downloading of the firmware cannot be performed.
DVD IC (DVD MT Assy : IC4002)	Any kind of symptoms (no power, a failure in any of the servo, video and audio systems, etc.) may be generated, because the DVD processing is performed by a single chip.
64M SDRAM (DVD MT Assy : IC4005)	No power. Block noise is generated during playback.

7.2 DISASSEMBLY

■ REMOVAL OF MECHANICAL PARTS AND P.C. BOARDS

1-1: TOP CABINET/FRONT CABINET/OPERATION 1/2PCB (Refer to Fig. 1-1)

1. Remove the 5 screws ①.
2. Remove the Top Cabinet in the direction of arrow (A).
3. Disconnect the following connector: (CP4002).
4. Unlock the 4 supports ②.
5. Remove the Front Cabinet in the direction of arrow (B).
6. Remove the 11 screws ③.
7. Remove the Operation 1/2 PCB in the direction of arrow (C).

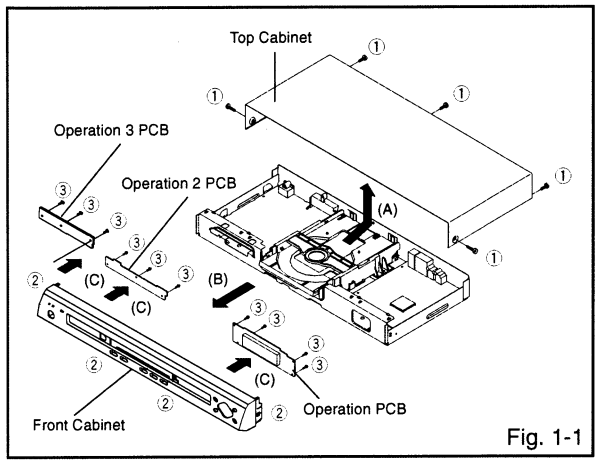


Fig. 1-1

1-2: POWER PCB (Refer to Fig. 1-2)

1. Disconnect the following connectors: (CP4003, CP8001).
2. Remove the 2 screw ①.
3. Remove the 4 screws ②.
4. Remove the Power PCB in the direction of arrow.

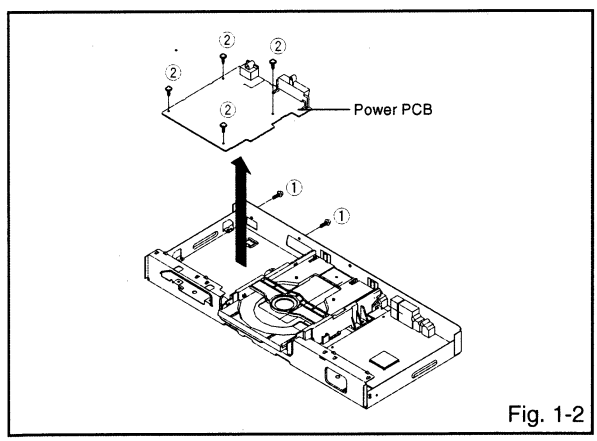


Fig. 1-2

1-3: DVD DECK (Refer to Fig. 1-3)

1. Short circuit the position shown in **Fig. 1-3** using a soldering iron. If you remove the DVD Deck with no soldering, the Laser may be damaged.
2. Disconnect the following connectors: (CP2301, CP2302, CP2303).
3. Remove the 4 screws ①.
4. Remove the DVD Deck in the direction of arrow.

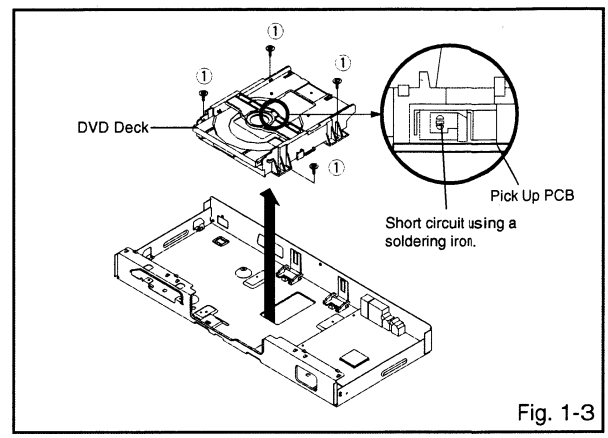


Fig. 1-3

NOTE

1. Before your operation, please read "PREPARATION OF SERVICING".
2. Use the Lead Free solder.
3. Manual soldering conditions
   - Soldering temperature: 320 ± 20°C
   - Soldering time: Within 3 seconds
   - Soldering combination: Sn-3.0Ag-0.5Cu
4. When Soldering/Removing of solder, use the drawing equipment over the Pick Up Unit to prevent the Flux smoke from it.
5. When installing the DVD Deck, remove all the soldering on the short circuit position after the connection of Pick Up PCB and DVD PCB connector.

1-4: DVD PCB (Refer to Fig. 1-4)

1. Remove the 4 screws ①.
2. Remove the 4 screws ②.
3. Remove the DVD PCB in the direction of arrow.

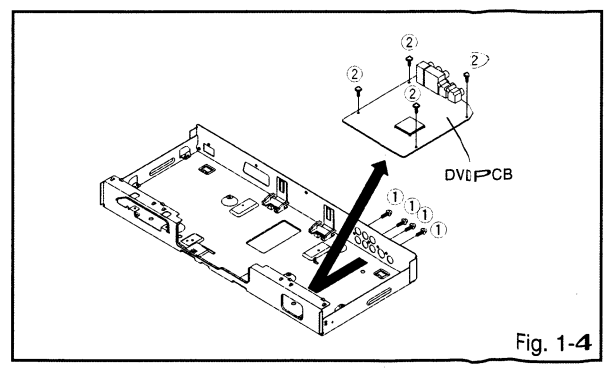


Fig. 1-4

■ REMOVAL OF DVD DECK PARTS

NOTE

1. Do not disassemble the DVD DECK PARTS except listed parts here. Minute adjustments are needed if the disassemble is done. If the repair is needed except listed parts, replace the DVD MECHA ASS'Y.

2-1: TRAY (Refer to Fig. 2-1-A)

1. Set the Tray opened. **(Refer to the DISC REMOVAL METHOD AT NO POWER SUPPLY)**
2. Unlock the 3 supports ① and draw it while sagging the Tray.

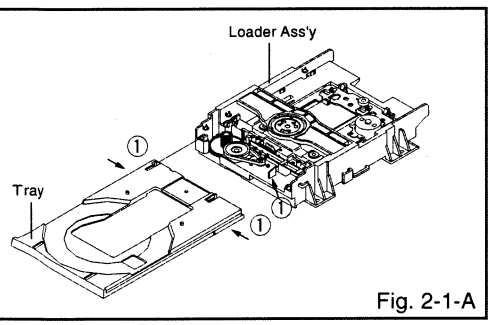


Fig. 2-1-A

NOTE

1. In case of the Tray installation, install them as the circled section of Fig. 2-1-B so that the each markers are met.

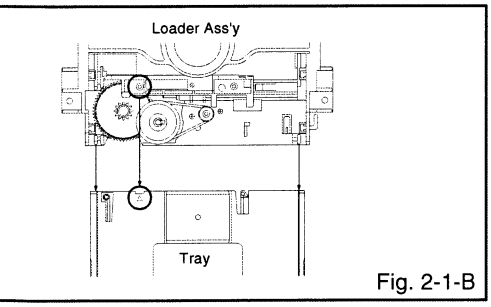


Fig. 2-1-B

2-2: TRAVERSE ASS'Y (Refer to Fig. 2-2-A)

1. Remove the screw ①.
2. Unlock the 2 supports ②.
3. Remove the Insulator (R) from the Loader Sub Ass'y.
4. Remove the Traverse Ass'y.

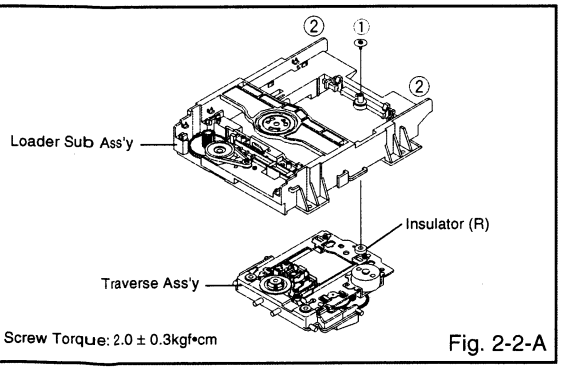


Fig. 2-2-A

NOTE

1. In case of the Traverse Ass'y, install it from (1) to (4) in order. **(Refer to Fig. 2-2-B)**
2. In case of the Traverse Ass'y installation, hook the wire on the Loader Ass'y as shown Fig. 2-2-C.

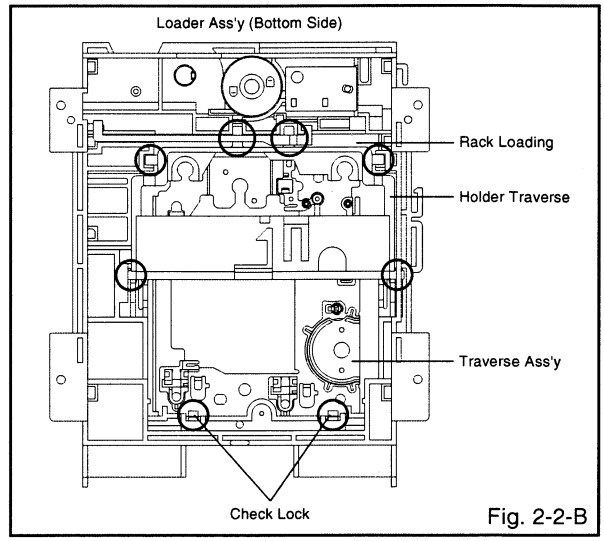


Fig. 2-2-B

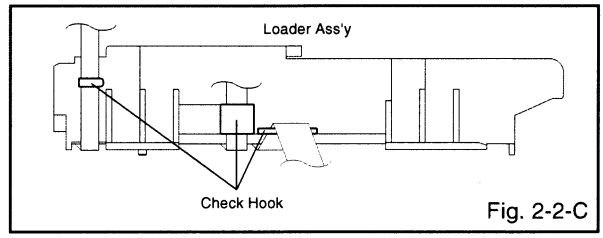


Fig. 2-2-C

2-3: LOADING MOTOR PCB ASS'Y/ LOADING BELT (Refer to Fig. 2-3-A)

1. Remove the Loading Belt.
2. Remove the screw ①.
3. Remove the Loading Motor PCB Ass'y.
4. Remove the 2 screws ②.
5. Remove the Loading Motor.
6. Remove the Gear Pulley.

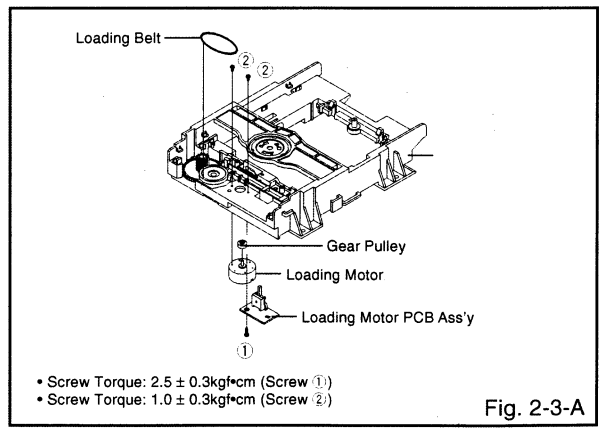


Fig. 2-3-A

NOTE

1. In case of the Pulley Motor installation, check if the value of the Fig. 2-3-B is correct.
2. When installing the wire of the Loading Motor PCB Ass'y, install it correctly as Fig. 2-3-C.
   Manual soldering conditions
   • Soldering temperature: 350 ± 5˚C
   • Soldering time: Within 4 seconds
   • Soldering combination: Sn-3.0Ag-0.5Cu
3. When installing the Loading Motor PCB Ass'y, install it correctly as Fig. 2-3-D.
4. In case of the Loading Motor PCB Ass'y installation, hook the wire on the Loader Sub Ass'y as shown Fig. 2-3-E.

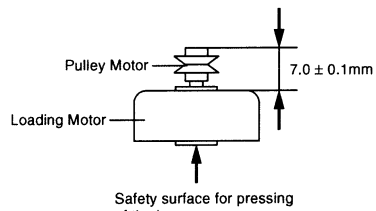


Fig. 2-3-B

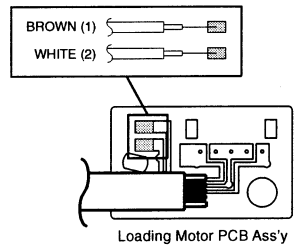


Fig. 2-3-C

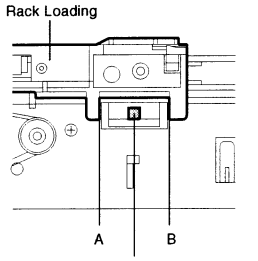


Fig. 2-3-D

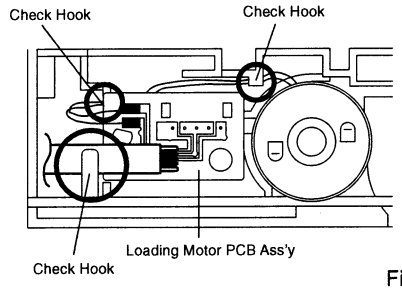


Fig. 2-3-E

2-4: RACK LOADING/MAIN GEAR/PULLEY GEAR (Refer to Fig. 2-4-A)

1. Unlock the support ① and remove the Gear Pulley.
2. Remove the Gear Main.
3. Press down the catcher ② and slide the Rack Loading.

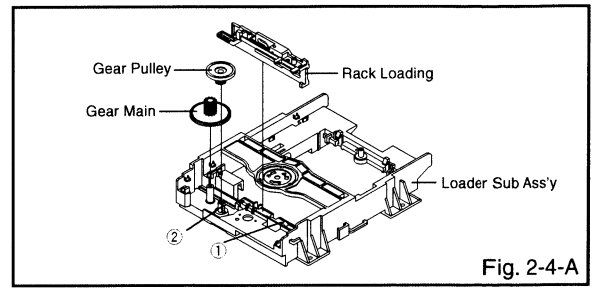


Fig. 2-4-A

NOTE

1. In case of the Rack Loading installation, hook the Rack Loading on the Loader Sub Ass'y as shown Fig. 2-4-B.
2. When installing the Gear Main, take care the direction of up or down as shown Fig. 2-4-C.

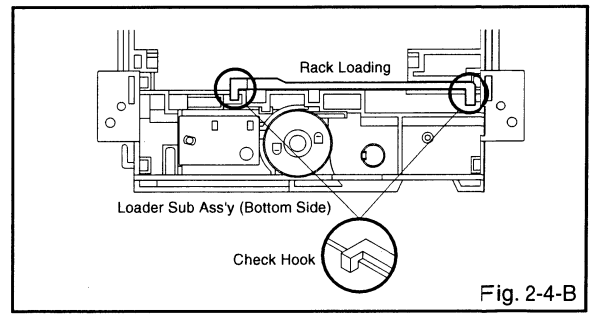


Fig. 2-4-B

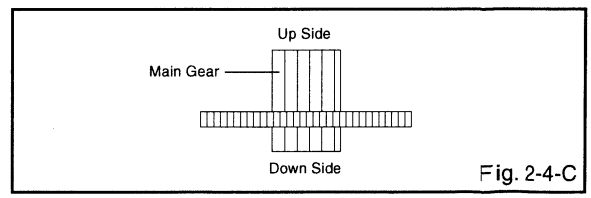


Fig. 2-4-C

2-5: CLAMPER ASS'Y (Refer to Fig. 2-5-A)

1. Press the Clamper and rotate the Plate Clamper clockwise, then unlock the 3 supports ①.
2. Remove the Plate Clamper, Magnet Clamper and Clamper.

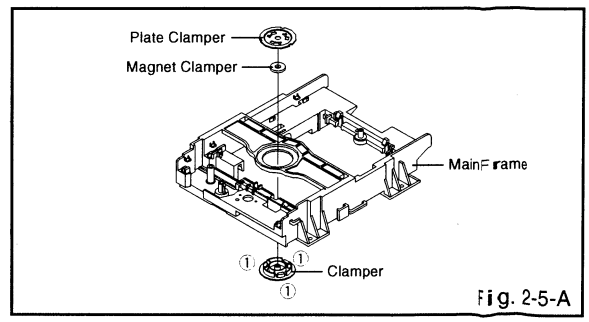


Fig. 2-5-A

NOTE

1. In case of the Clamper Ass'y installation, install correctly as Fig. 2-5-B.

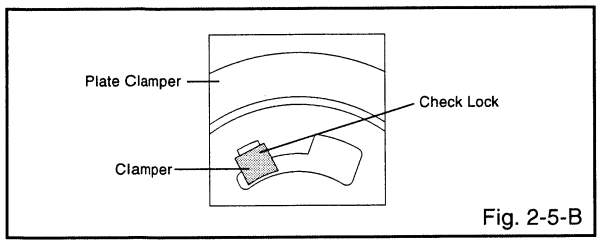


Fig. 2-5-B

2-6: HOLDER TRAVERSE/INSULATOR (F)/INSULATOR (R) (Refer to Fig. 2-6-A)

1. Remove the Holder Traverse.
2. Remove the 2 Insulator (F).
3. Remove the Insulator (R).

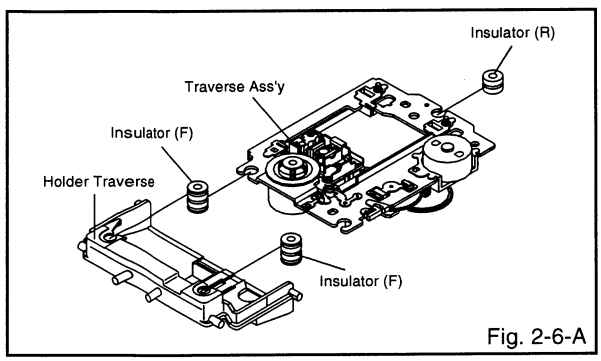


Fig. 2-6-A

NOTE

1. In case of the Insulator (F) installation, install correctly as Fig. 2-6-B.

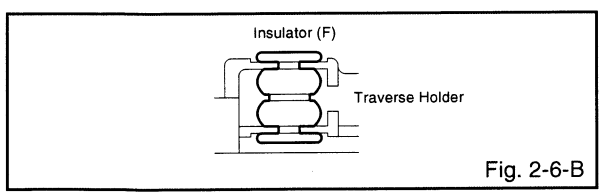


Fig. 2-6-B

2-7: SWITCH PCB ASS'Y/GEAR MIDDLE/GEAR FEED/RACK FEED ASS'Y/FEED MOTOR (Refer to Fig. 2-7-A)

1. Unlock the support ①.
2. Remove the Gear Middle.
3. Remove the screw ②.
4. Remove the Rack Feed Ass'y.
5. Remove the screw ③.
6. Remove the Switch PCB Ass'y.
7. Remove the screw ④.
8. Remove the Gear Feed.
9. Remove the 2 screws ⑤.
10. Remove the Feed Motor.
11. Remove the Gear Motor.

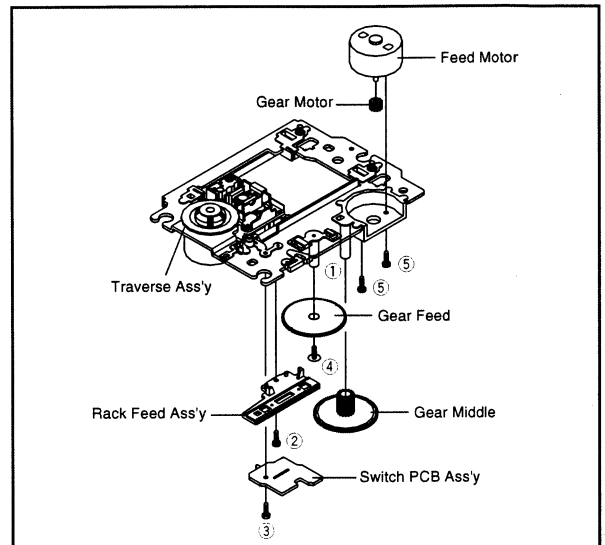


Fig. 2-7-A

NOTE

1. When installing the Rack Feed Ass'y, push both ends to align the teeth as shown Fig. 2-7-B. Then install it.
2. In case of the Gear Motor installation, check if the value of the Fig. 2-7-C is correct.
3. When installing the wire of the Switch PCB Ass'y, install it correctly as Fig. 2-7-D.
   Manual soldering conditions
   • Soldering temperature: 350 ± 5°C
   • Soldering time: Within 4 seconds
   • Soldering combination: Sn-3.0Ag-0.5Cu
4. After the assembly of the Traverse Ass'y, hook the wire on the Traverse Ass'y as shown Fig. 2-7-E.

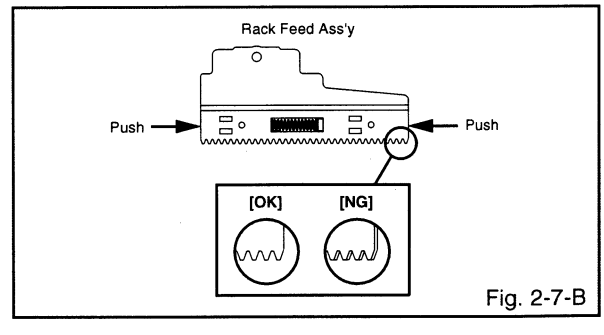


Fig. 2-7-B

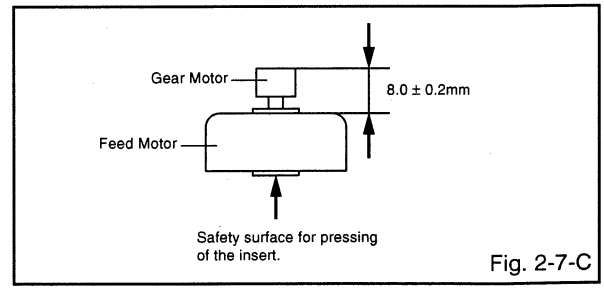


Fig. 2-7-C

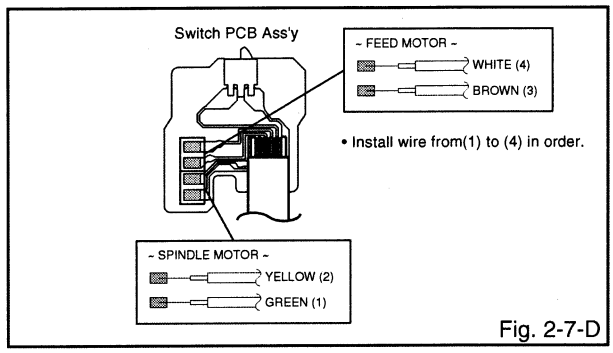


Fig. 2-7-D

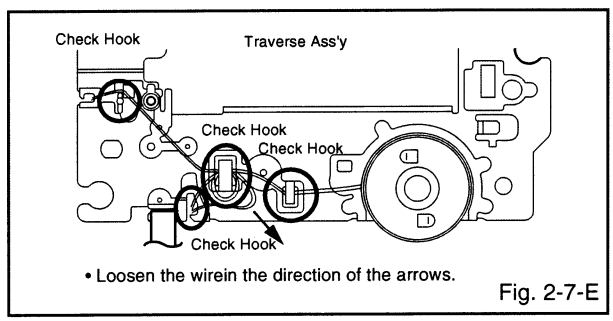


Fig. 2-7-E

2-8: FFC WIRE HANDLING

1. When installing the FFC, fold it correctly and install it as shown from Fig. 2-8.

NOTE

1. Do not make the folding lines except the specified positions for the FFC.

[24 pin FFC]

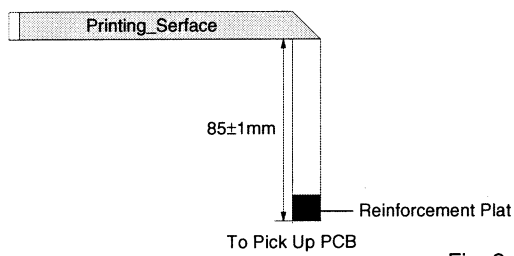


Fig. 2-8

7.3 IC INFORMATION

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

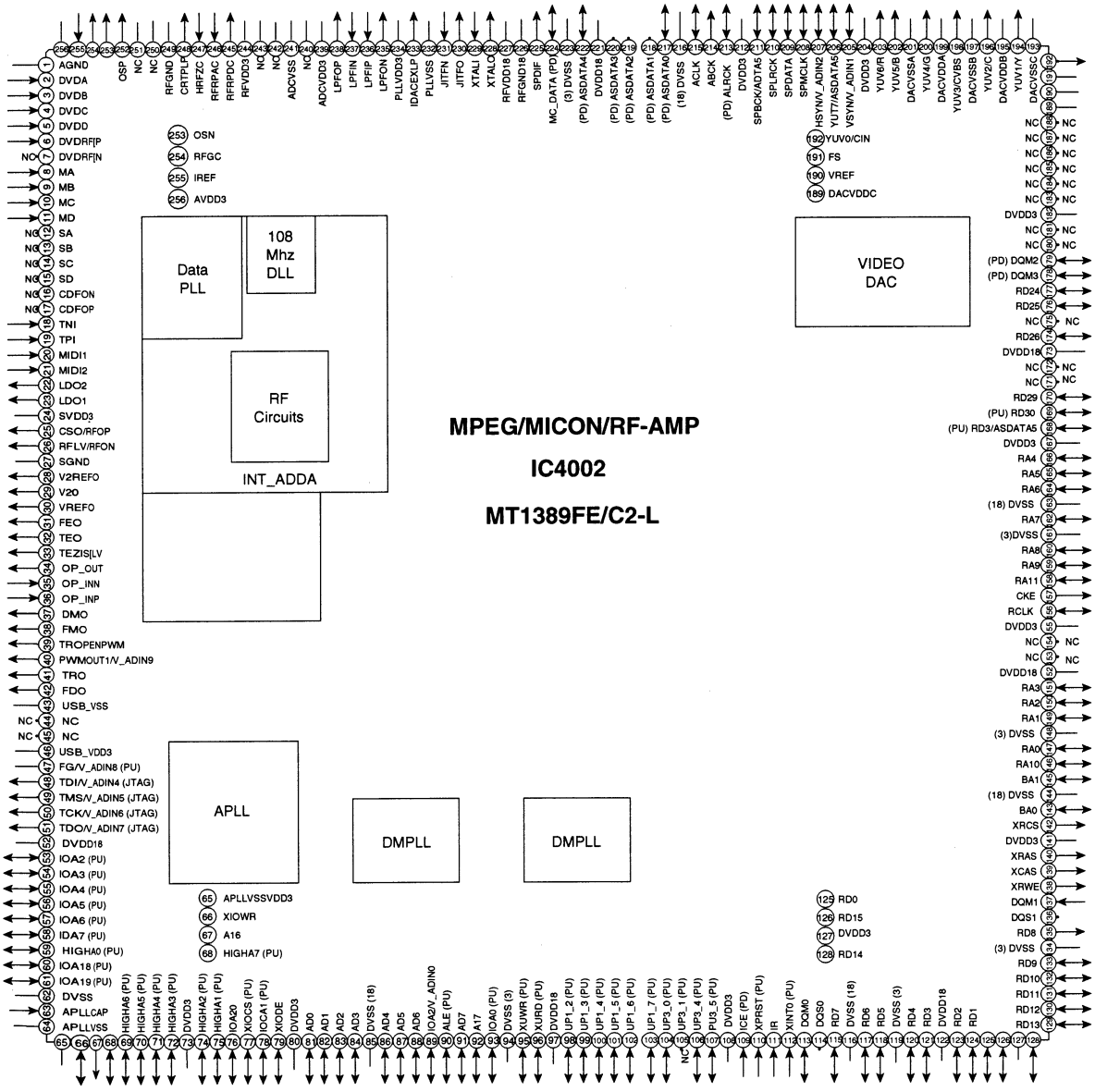
● **List of IC**

MT1389FE, LA6565, PT6315

■ MT1389FE (DVD MT ASSY: IC4002)

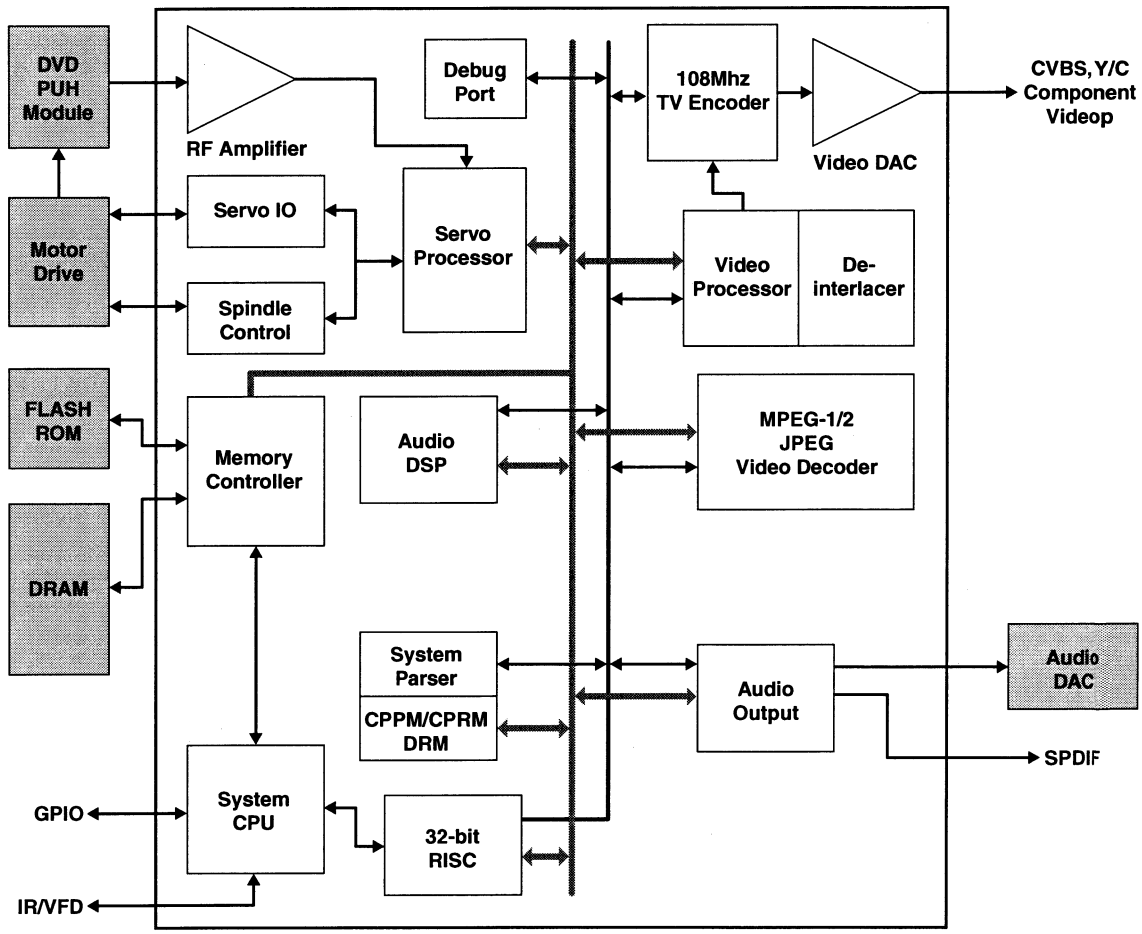
• MPEG / MICON / RF-AMP

● **Pin Arrangement (Top view)**



• MPEG / MICON / RF-AMP Microcomputer

● Block Diagram



■ MT1389FE/C2-L (DVD MT ASSY : IC4002)

• MPEG/MICON/RF-AMP CPU

● Pin Function

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
1	AGND	–	Analog ground	48	TDI	I	Serial interface port 3 data-out Version AD input port 4 GPIO
2	DVDA	I	AC coupled input path A				
3	DVDB	I	AC coupled input path B	49	TMS	I	Serial interface port 3 data-in Version AD input port 5 GPIO
4	DVDC	I	AC coupled input path C				
5	DVDD	I	AC coupled input path D	50	TCK	I	Serial interface port 3 clock pin Version AD input port 6 GPIO
6	DVDRFIP	I	AC coupled DVD RF signal input RFIP				
7	DVDRFIN	I	AC coupled DVD RF signal input RFIN	51	TDO	I	Serial interface port 3 chip-select Version AD input port 7 GPO
8	MA	I	DC coupled main-beam RF signal input A				
9	MB	I	DC coupled main-beam RF signal input B	52	DVDD18	–	1.8V power pin for internal digital circuitry
10	MC	I	DC coupled main-beam RF signal input C	53	IOA2	I/O	Microcontroller address 2/IO
11	MD	I	DC coupled main-beam RF signal input D	54	IOA3	I/O	Microcontroller address 3/IO
12	SA	I	DC coupled sub-beam RF signal input A	55	IOA4	I/O	Microcontroller address 4/IO
13	SB	I	DC coupled sub-beam RF signal input B	56	IOA5	I/O	Microcontroller address 5/IO
14	SC	I	DC coupled sub-beam RF signal input C	57	IOA6	I/O	Microcontroller address 6/IO
15	SD	I	DC coupled sub-beam RF signal input D	58	IOA7	I/O	Microcontroller address 7/IO
16	CDFON	I	CD focusing error negative input	59	HIGHA0	I/O	Microcontroller address 8
17	CDFOP	I	CD focusing error positive input	60	IOA18	I/O	Flash address 18/IO
18	TNI	I	3 beam satellite PD signal negative input	61	IOA19	I/O	Flash address 19/IO
19	TPI	I	3 beam satellite PD signal positive input	62	DVSS	–	3.3V Ground pin for internal digital circuitry
20	MDI1	I	Laser power monitor input	63	APLLCAP	I	APLL External Capacitance connection
21	MDI2	I	Laser power monitor input	64	APLLVSS	–	Ground pin for sudio clock circuitry
22	LDO2	O	Laser driver output	65	APLLVDD3	–	3.3V Power pin for audio clock circuity
23	LDO1	O	Laser driver output	66	IOWR#	I/O	Flash write enable, active low/IO
24	SVDD3	–	Analog power 3.3V	67	A16	O	Flash adress 16
25	CSO	O	Central servo/Positive main beam summing output	68	HIGHA7	I/O	Microcontroller address 15
26	RFLVL	O	RFRP low pass, or Negative main beam summing output	69	HIGHA6	I/O	Microcontroller address 14
27	SGND	–	Analog ground	70	HIGHA5	I/O	Microcontroller address 13
28	V2REFO	–	Reference voltage 2.8V	71	HIGHA4	I/O	Microcontroller address 12
29	V20	I/O	Reference voltage 2.0V	72	HIGHA3	I/O	Microcontroller address 11
30	VREFO	I/O	Reference voltage 1.4V	73	DVDD3	–	3.3V power pin for internal digital circuitry
31	FEO	O	Focus error monitor output	74	HIGHA2	I/O	Microcontroller adress 10
32	TEO	O	Tracking error monitor output	75	HIGHA1	I/O	Microcontroller adress 9
33	TEZISLV	I/O	TE Slicing Level	76	IOA20	I/O	Flash adress 20/IO
34	OP_OUT	O	Op amp output	77	IOCS#	I/O	Flash chip select, active low/IO
35	OP_INN	I	Op amp negative input	78	IOA1	I/O	Microcontroller adress 1/IO
36	OP_INP	I	Op amp positive input	79	IOOE#	I/O	Flash output enable, active low/IO
37	DMO	O	Disk motor control output. PWM output	80	DVDD3	–	3.3V power pin for internal digital circuitry
38	FMO	O	Feed motor control. PWM output	81	AD0	I	Microcontroller address/data 0
39	TROPENP/WM	O	Tray PWM output/Tray open output	82	AD1	I	Microcontroller address/data 1
40	PWMOUT1	O	1st General PWM output, or Version AD input9	83	AD2	I	Microcontroller address/data 2
41	TRO	O	Tracking servo output. PDM output of tracking servo compensator.	84	AD3	I	Microcontroller address/data 3
				85	DVSS	–	1.8V Ground pin for internal digital circuitry
42	FOO	O	Focus servo output. PDM output of focus servo compensator	86	AD4	I	Microcontroller address/data 4
				87	AD5	I	Microcontroller address/data 5
43	DVSS	–	1.8V Ground pin for internal digital	88	AD6	I	Microcontroller address/data 6
44	NC	–	–	89	IOA21	I/O	Flash address 21/IO While External FLASH size <= 2MB: Version AD input port 0, or GPIO
45	NC	–	–				
46	DVDD3	–	3.3V power pin for internal digital circuitry				
47	FG(Diogital pin)	–	Motor Hall sensor input, or Version AD input 8	90	ALE	I/O	Microcontroller address latch enable

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
91	AD7	I	Microcontroller address/data 7	137	DQM1	I/O	Data mask 1
92	A17	O	Flash address 17	138	RWE#	O	DRAM Write enable, active low
93	IOA0	I/O	Microcontroller address 0/IO	139	CAS#	O	DRAM column address strobe, active low
94	DVSS	–	3.3V Ground pin for internal digital circuitry	140	RAS#	O	DRAM row address strobe, active low
95	UWR#	I	Microcontroller write strobe, active low	141	DVDD3	–	3.3V power pin for internal digital circuitry
96	URD#	I	Microcontroller read strobe, active low	142	RCS#	O	DRAM chip select, active low
97	DVDD18	–	1.8V power pin for internal digital circuitry	143	BA0	I/O	DRAM bank address 0
98	UP1_2	I/O	Microcontroller port 1-2	144	DVSS	–	1.8V Ground pin for internal digital circuitry
99	UP1_3	I/O	Microcontroller port 1-3	145	BA1	I/O	DRAM bank address 1
100	UP1_4	I/O	Microcontroller port 1-4	146	RA10	I/O	DRAM address 10
101	UP1_5	I/O	Microcontroller port 1-5	147	RA0	I/O	DRAM address 0
102	UP1_6	I/O	Microcontroller port 1-6 I²C clock pin	148	DVSS	–	3.3V Ground pin for internal digital circuitry
				149	RA1	I/O	DRAM address 1
103	UP1_7	I/O	Microcontroller port 1-7 I²C data pin	150	RA2	I/O	DRAM address 2
				151	RA3	I/O	DRAM address 3
104	UP3_0	I/O	Microcontroller port 3-0 8032 RS232 RXD	152	DVDD18	–	1.8V power pin for internal digital circuitry
				153	NC	–	–
105	UP3_1	I/O	Microcontroller port 3-1 8032 RS232 TXD	154	NC	–	–
				155	DVDD3	–	3.3V power pin for internal digital circuitry
106	UP3_4	I/O	Microcontroller port 3-4 Hardwired RD232 RXD I²C clock pin	156	RCLK	I/O	Dram clock
				157	CKE	O	DRAM clock enable
107	UP3_5	I/O	Microcontroller port 3-5 Hardwired RD232 TXD I²C data pin	158	RA11	I/O	DRAM address bit 11
				159	RA9	I/O	DRAM address 9
108	DVDD3	–	3.3V power pin for internal digital circuitry	160	RA8	I/O	DRAM address 8
109	ICE	I	Microcontroller ICE mode enable	161	DVSS	–	3.3V Ground pin for internal digital circuitry
110	PRST#	I	Power on reset input, active low	162	RA7	I/O	DRAM address 7
111	IR	I	IR control signal input	163	DVSS	–	1.8V Ground pin for internal digital circuitry
112	INT0#	I/O	Microcontroller external interrupt 0, active low	164	RA6	I/O	DRAM address 6
113	DQM0	I/O	Data mask 0	165	RA5	I/O	DRAM address 5
114	DQS0	I/O	GPIO	166	RA4	I/O	DRAM address 4
115	RD7	I/O	DRAM data 7	167	DVDD3	–	3.3V power pin for internal digital circuitry
116	DVSS	–	1.8V Ground pin for internal digital circuitry	168	RD31	I/O	GPIO
117	RD6	I/O	DRAM data 6	169	RD30	I/O	GPIO
118	RD5	I/O	DRAM data 5	170	RD29	I/O	GPIO
119	DVSS	–	3.3V Ground pin for internal digital circuitry	171	NC	–	–
120	RD4	I/O	DRAM data 4	172	NC	–	–
121	RD3	I/O	DRAM data 3	173	DVDD18	–	1.8V power pin for internal digital circuitry
122	DVDD18	–	1.8V power pin for internal digital circuitry	174	RD26	I/O	GPIO
123	RD2	I/O	DRAM data 2	175	NC	–	–
124	RD1	I/O	DRAM data 1	176	RD25	I/O	GPIO
125	RD0	I/O	DRAM data 0	177	RD24	I/O	GPIO
126	RD15	I/O	DRAM data 15	178	DQM3	I/O	GPIO
127	DVDD3	–	3.3V power pin for internal digital circuitry	179	DQM2	I/O	GPIO
128	RD14	I/O	DRAM data 14	180	NC	–	–
129	RD13	I/O	DRAM data 13	181	NC	–	–
130	RD12	I/O	DRAM data 12	182	DVDD3	–	3.3V power pin for internal digital circuitry
131	RD11	I/O	DRAM data 11	183	NC	–	–
132	RD10	I/O	DRAM data 10	184	NC	–	–
133	RD9	I/O	DRAM data 9	185	NC	–	–
134	DVSS	–	3.3V Ground pin for internal digital circuitry	186	NC	–	–
135	RD8	I/O	DRAM data 8	187	NC	–	–
136	DQS1	I/O	GPIO	188	NC	–	–

No.	Pin Name	I/O	Pin Function
189	DACVDDC	–	3.3V power pin for VIDEO DAC circuitry
190	VREF	–	Bandgap reference voltage
191	FS	–	Full scale adjustment
192	YUV0	O	Video data output bit 0 Compensation capacitor
193	DACVSSC	–	Ground pin for VIDEO DAC circuitry
194	YUV1	O	Video data output bit 1 Analog Y output
195	DACVDDB	–	3.3V power pin for VIDEO DAC circuitry
196	YUV2	O	Video data output bit 2 Analog chroma output
197	DACVSSB	–	Ground pin for VIDEO DAC circuitry
198	YUV3	O	Video data output bit 3 Analog composite output
199	DACVDDA	–	3.3V power pin for VIDEO DAC circuitry
200	YUV4	O	Video data output bit 4 Green or Y
201	DACVSSA	–	Ground pin for VIDEO DAC circuitry
202	YUV5	O	Video data output bit 5 Blue or CB
203	YUV6	O	Video data output bit 6 Red or CR
204	DVDD3	–	3.3V power pin Video DAC digital circuitry only
205	VSYN	I/O	Vertical sync input/output While no External TV-encoder: Vertical sync for video-input Version AD input port 1 GPIO
206	YUV7	I/O	Video data output bit 7 While no External TV-encoder: Microcontroller external interrupt 3 Audio serial data 5 part II:DSD data sub-woofer channel or Microphone output GPIO
207	HSYN	I/O	Horizontal sync input/output While no External TV-encoder: Horizontal sync for video-input Microcontroller external interrupt 4 Version AD input port 2 GPIO
208	SPMCLK	I/O	Audio DAC master clock of SPDIF input While SPDIF input is not used: Serial interface port 0 clock pin GPIO
209	SPDATA	I/O	Audio data of SPDIF input While SPDIF input is not used: Serial interface port 0 data-in GPIO
210	SPLRCK	I/O	Audio left/right channel clock of SPDIF input While SPDIF input is not used: Serial interface port 0 data-out GPIO
211	SPBCK	I/O	Audio bit clock of SPDIF input While SPDIF input is not used: Serial interface port 0 chip select Audio serial data 5 part I:DSD data sub-woofer channel or Microphone output GPIO
212	DVDD3	–	3.3V power pin for internal digital circuitry

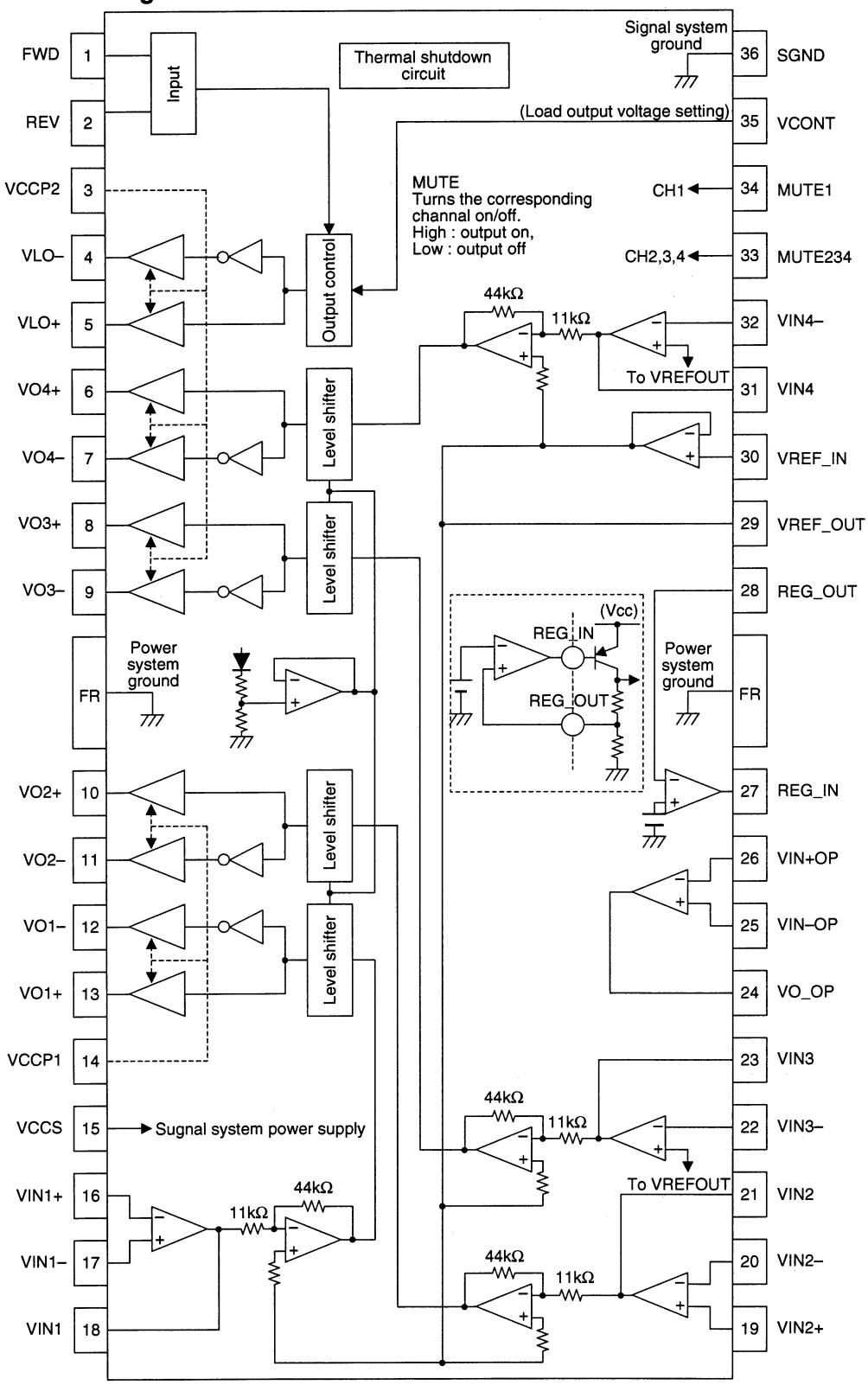
No.	Pin Name	I/O	Pin Function
213	ALRCK	I/O	Audio left/right channel clock Trap value in power-on reset: 1:use external 373 0:use internal 373
214	ABCK	O	Audio bit clock Phase de-modulation
215	ACLK	I/O	Audio DAC master clock
216	DVSS	–	1.8V Ground pin for internal digital circuitry
217	ASDATA0	I/O	Audio serial data 0 (Front-Left/Front-Right) DSD data left channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation
218	ASDATA1	I/O	Audio serial data 1 (Left-Surround/Right-Surround) DSD data right channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPO
219	ASDATA2	I/O	Audio serial data 2 (Center/LFE) DSD data left surround channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPO
220	ASDATA3	I/O	Audio serial data 3 (Center-back/Center-left-back/Center-right-back, in 6.1 or 7.1 mode) DSD data right surround channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: GPIO
221	DVDD18	–	1.8V power pin for internal digital circuitry
222	ASDATA4	I/O	Audio serial data 4 (Down-mixed Left/Right) DSD data center channel Trap value in power-on reset: 1:manufactory test mode 0:normal operation While only 2 channels output: Microcontroller external interrupt 1 GPIO
223	DVSS	–	3.3V Ground pin for internal digital circuitry
224	MC_DATA	I/O	Microphone serial input While not support Microphone: Microcontroller external interrupt 2 GPIO
225	SPDIF	O	SPDIF output
226	RFGND18	–	Analog ground
227	RFVDD18	–	Analog power 1.8V
228	XTALO	O	27M crystal out
229	XTALI	I	27M crystal in
230	JITFO	O	The output terminal of RF jitter meter
231	JITFN	I	The input terminal of RF jitter meter
232	PLLVSS	–	Ground pin for data PLL and related analog circuitry
233	IDACEXLP	O	Data PLL DAC Low-pass filter
234	PLLVDD3	–	Power pin for data PLL and related analog circuitry
235	LPFON	O	The negative output of loop filter amplifier
236	LPFIP	I	The positive input terminal of loop filter amplifier
237	LPFIN	I	The negative input terminal of loop filter amplifier
238	LPFOP	O	The positive output of loop filter amplifier

No.	Pin Name	I/O	Pin Function	No.	Pin Name	I/O	Pin Function
239	ADCVDD3	–	Analog 3.3V Power for ADC	249	RFGND	–	Analog Power
240	NC	–	–	250	NC	–	–
241	ADCVSS	–	Analog ground for ADC	251	NC	–	–
242	NC	–	–	252	OSP	O	RF Offset cancellation capacitor connecting
243	NC	–	–	253	OSN	O	RF Offset cancellation capacitor connecting
244	RFVDD3	–	Analog Power	254	RFGC	O	RF AGC loop capacitor connecting for DVD-ROM
245	RFRPDC	O	RF ripple detect output	255	IREF	I	Current reference input. It generates reference current for RF path. Connect an external 15K resistor to this pin and AVSS
246	RFRPAC	I	RF ripple detect input (through AC-coupling)				
247	HRFZC	I	High frequency RF ripple zero crossing				
248	CRTPLP	O	Defect level filter capacitor connecting	256	AVDD3	–	Analog power 3.3V

■ LA6565 (DVD MT : IC2301)

• MOTOR DRIIVE

● Internal Block Diagram



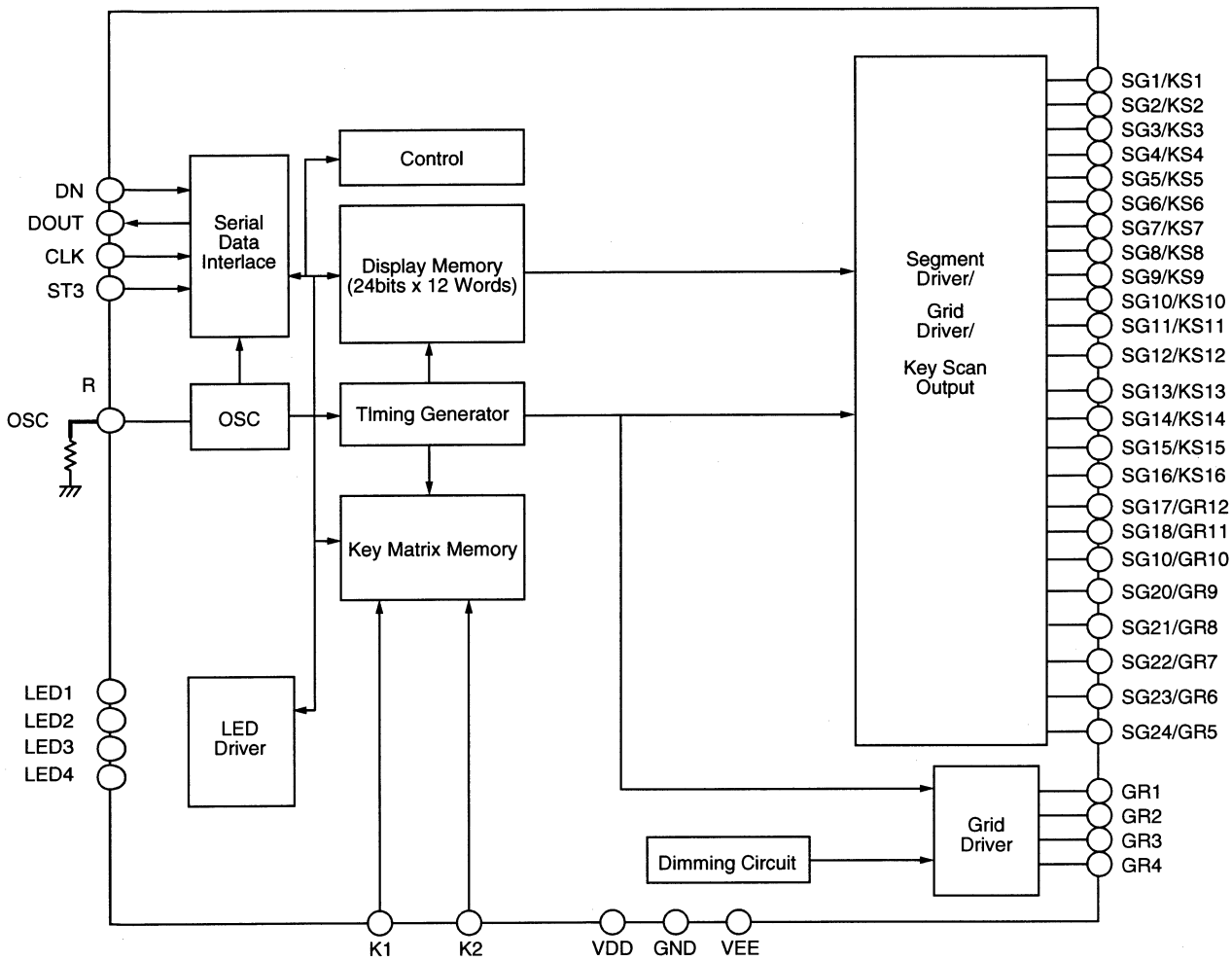
● Pin Functions

Pin No.	Pin Name	Pin Descriptions
1	FWD	Loading output direction switching (FWD). Loading system logic input.
2	REV	Loading output direction switching (REV). Loading system logic input.
3	V CC 2	Channels 3, 4, and loading power stage power supply
4	VLO –	Loading output (–)
5	VLO +	Loading output (+)
6	VO4 +	Channel 4 output (+)
7	VO4 –	Channel 4 output (–)
8	VO3 +	Channel 3 output (+)
9	VO3 –	Channel 3 output (–)
10	VO2 +	Channel 2 output (+)
11	VO1 –	Channel 2 output (–)
12	VO1 –	Channel 1 output (–)
13	VO1 +	Channel 1 output (+)
14	VCCP1	Channel 1 and 2 power stage power supply
15	VCCS	Signal system power supply
16	VIN1 +	Channel 1 input. Input operational amplifier + input.
17	VIN1 –	Channal 1 input. Input operational amplifier – input.
18	VIN1	Channel 1 input. Input operational amplifier output.
19	VIN2 +	Channal 2 input. Input operational amplifier + input.
20	VIN2 –	Channel 2 input. Input operational amplifier – input.
21	VIN2	Channel 2 input. Input operational amplifier output.
22	VIN3 –	Channel 3 input. Input operational amplifier – input.
23	VIN3	Channal 3 input. Input operational amplifier output.
24	VO_OP	Operational amplifier output
25	VIN–OP	Operational amplifier – input
26	VIN+OP	Operational amplifier + input
27	REG_IN	Regulator error amplifer output. Connect this pin to the base of the external pnp transistor.
28	REG_OUT	Regulator error amplifier input (+).
29	VREF_OUT	VREF amplifier (voltage follower) output.
30	VREF_IN	VREF input. Apply the external reference voltage to this pin.
31	VIN4	Channal 4 input. Input operational amplifier output.
32	VIN4 –	Channal 4 input operational amplifier – input.
33	MUTE234	Controls the on/off state of channals 2, 3, and 4.
34	MUTE1	Channal 1 output on/off control
35	VCONT	Loading block output high–level voltage setting
36	S_GND	Signal system ground

■ PT6315 (OPERATION 1 ASSY : IC651)

• FIP DRIIVE IC

● Block Diagram



● Pin Description

Pin Name	I/O	Description	Pin No.
LED1 to LED4	O	LED Output Pin	1 to 4
OSC	I	Oscillator Input Pin A resistor is connected to this pin to determine the oscillation frequency	5
DOUT	O	Data Output Pin (N-Channel, Open-Drain) This pin outputs serial data at the falling edge of the shift clock (starting from the lower bit).	6
DIN (Schmitt Trigger)	I	Data Input Pin This pin inputs serial data at the rising edge of the shift clock (starting from the lower bit)	7
CLK (Schmitt Trigger)	I	Clock Input Pin This pin reads serial data at the rising edge and outputs data at the falling edge.	8
STB (Schmitt Trigger)	I	Serial Interface Strobe Pin The data input after the STB has fallen is processed as a command. When this pin is "HIGH", CLK is ignored.	9
K1 to K2	I	Key Data Input Pins The data inputted to these pins are latched at the end of the display cycle.	10 ,11
VSS	–	Logic Ground Pin	12,44
VDD	–	Logic Power Supply	13,43
SG1/KS1 to SG16/KS16	O	High-Voltage Segment Output Pins Also acts as the Key Source	14 to 29
VEE	–	Pull-Down Level	30
SG17/GR12 to SG24/GR5	O	High Voltage Segment/Grid Output Pins	31 to 38
GR4 to GR1	O	High-Voltage Grid Output Pins	39 to 42

7.4 DISC / CONTENT FORMAT PLAYBACK COMPATIBILITY

compatibility

This player is compatible with a wide range of disc types (media) and formats. Playable discs will generally feature one of the following logos on the disc and/or disc packaging. Note however that some disc types, such as recordable CD and DVD, may be in an unplayable format—see below for further compatibility information.

Please also note that recordable discs cannot be recorded using this player.

DVD-Video DVD-R DVD-RW

Audio CD Video CD CD-R CD-RW

Fujicolor CD

- *is a trademark of Fuji Photo Film Co. Ltd.*
- Also compatible with KODAK Picture CD

This player supports the IEC's Super VCD standard. Compared to the Video CD standard, Super VCD offers superior picture quality, and allows two stereo soundtracks to be recorded. Super VCD also supports the widescreen size.

Super VCD

CD-R/RW compatibility

- Compatible formats: CD-Audio, Video CD/ Super VCD, ISO 9660 CD-ROM* containing MP3, WMA, JPEG or DivX video files
  ** ISO 9660 Level 1 or 2 compliant. CD physical format: Mode1, Mode2 XA Form1. Romeo and Joliet file systems are both compatible with this player.*
- Multi-session playback: No
- Unfinalized disc playback: No
- **File structure (may differ): Up to 299 folders on a disc; up to 648 folders and files (combined) within each folder.**

DVD-R/RW compatibility

- Compatible formats: DVD-Video, Video Recording (VR)*
  ** Edit points may not play exactly as edited; screen may go momentarily blank at edited points.*
- Unfinalized playback: No
- WMA/MP3/JPEG file playback on DVD-R/ RW: No

Compressed audio compatibility

- Compatible formats: MPEG-1 Audio Layer 3 (MP3), Windows Media Audio (WMA)
- Sampling rates: 32, 44.1 or 48kHz
- Bit-rates: Any (128Kbps or higher recommended)
- VBR (variable bit rate) MP3 playback: No
- VBR WMA playback: No
- WMA lossless encoding compatible: No
- DRM (Digital Rights Management) compatible: Yes (DRM-protected audio files will *not* play in this player)
- File extensions: .mp3, .wma (these must be used for the player to recognize MP3 and WMA files – do not use for other file types)

About WMA

The Windows Media® logo printed on the box indicates that this player can playback Windows Media Audio content.

WMA is an acronym for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. WMA content can be encoded by using Windows Media® Player version 7, 7.1, Windows Media® Player for Windows® XP, or Windows Media® Player 9 Series.

Microsoft, Windows Media, and the Windows logo are trademarks, or registered trademarks of Microsoft Corporation in the United States and/or other countries.

About DivX

DivX is a compressed digital video format created by the DivX® video codec from DivXNetworks, Inc. This player can play DivX video files burned on CD-R/RW/ROM discs. Keeping the same terminology as DVD-Video, individual DivX video files are called "Titles." When naming files/titles on a CD-R/RW disc prior to burning, keep in mind that by default they will be played in alphabetical order.

DivX video compatibility

- Official DivX® Certified product.
- Plays DivX® 5, DivX® 4, DivX® 3 and DivX® VOD video content (in compliance with DivX® Certified technical requirements).
- File extensions: .avi and .divx (these must be used for the player to recognize DivX video files). *Note that all files with the .avi extension are recognized as MPEG4, but not all of these are necessarily DivX video files and therefore may not be playable on this player.*

DivX, DivX Certified, and associated logos are trademarks of DivXNetworks, Inc. and are used under license.

JPEG file compatibility

- Compatible formats: Baseline JPEG and EXIF 2.2* still image files up to a resultion of 3072 x 2048.
  **File format used by digital still cameras*
- Progressive JPEG compatible: No
- File extensions: .jpg (must be used for the player to recognize JPEG files – do not use for other file types)

PC-created disc compatibility

Discs recorded using a personal computer may not be playable in this unit due to the setting of the application software used to create the disc. In these particular instances, check with the software publisher for more detailed information.

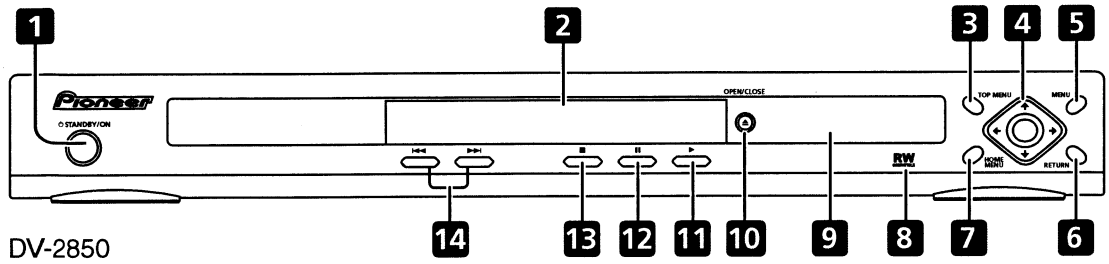
Discs recorded in packet write mode (UDF format) are not compatible with this player.

Check the DVD-R/RW or CD-R/RW software disc boxes for additional compatibility information.

8. PANEL FACILITIES

8.1 FRONT PANEL SECTION

Front panel



DV-2850

1 ⏻ STANDBY/ON

Press to switch the player on or into standby.

2 Disc tray

3 TOP MENU

Press to display the top menu of a DVD disc.

4 ENTER & cursor buttons

Use to navigate on-screen displays and menus. Press **ENTER** to select an option or execute a command.

5 MENU

Press to display a DVD disc menu, or the Disc Navigator if a VR format DVD-RW, CD, Video CD , MP3, WMA or JPEG disc is loaded.

6 RETURN

Press to return to a previous menu screen.

7 HOME MENU

Press to display (or exit) the on-screen display.

8 RW COMPATIBLE Compatible

This mark indicates compatibility with DVD-RW discs recorded on a DVD recorder in Video Recording mode.

9 Display

Description of the display.

10 ⏏ OPEN/CLOSE

Press to open or close the disc tray.

11 ▶

Press to start or resume playback.

12 ⏸

Press to pause playback. Press again to restart.

13 ■

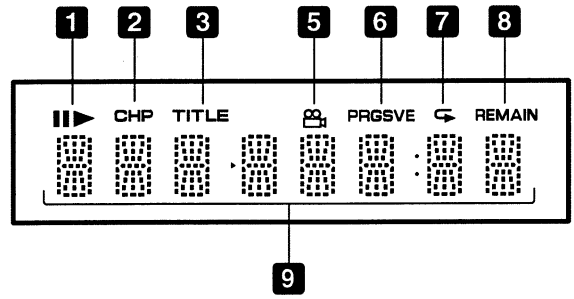
Press to stop the disc (you can resume playback by pressing ▶ (play)).

14 ⏮ and ⏭

- Press and hold for fast reverse/forward scanning.
- Press to jump to the previous/next chapter or track.

8.2 DISPLAY

Display



1 II and ►
Indicates whether a disc is playing or paused.

2 CHP
Indicates that the character display is showing a DVD chapter number.

3 TITLE
Indicates that the character display is showing a DVD title number.

5
Lights during multi-angle scenes on a DVD disc.

6 PRGSVE
Lights when the player is set to output progressive scan video.

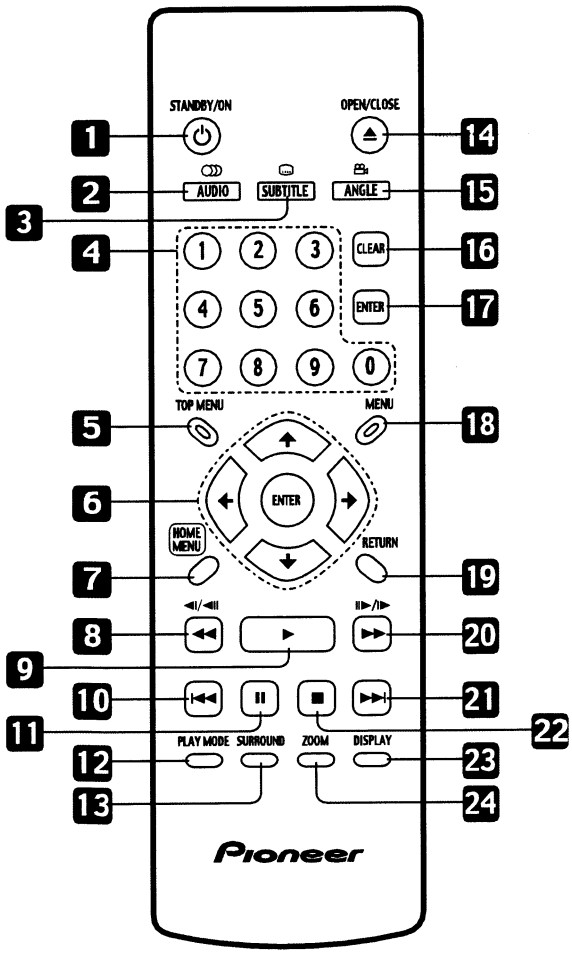
7
Lights in any of the repeat play modes.

8 REMAIN
Indicates that the character display is showing the disc or title/chapter/track remain time.

9 Character display

8.3 REMOTE CONTROL

Remote control



1 ⏻ STANDBY/ON
Press to switch the player on or into standby.

2 AUDIO
Press to select the audio channel or language.

3 SUBTITLE
Press to select a subtitle display.

4 Number buttons

5 TOP MENU
Press to display the top menu of a DVD disc.

6 ENTER & cursor buttons

Use to navigate on-screen displays and menus. Press **ENTER** to select an option or execute a command.

7 HOME MENU
Press to display (or exit) the on-screen display.

8 ◀◀ and ◀I/◀II
Use for reverse slow motion playback, frame reverse and reverse scanning.

9 ▶
Press to start or resume playback.

10 I◀◀
chapter or track, then to previous chapters/ tracks.

11 II
Press to pause playback; press again to restart.

12 PLAY MODE
Press to display the Play Mode menu. (You can also get to the Play Mode menu by pressing **HOME MENU** and selecting Play Mode).

Press to jump to the beginning of the current

Remote control 2

13 SURROUND
Press to activate/switch off DD V/SRS TruSurround.

14 ▲ OPEN/CLOSE
Press to open or close the disc tray.

15 ANGLE
Press to change the camera angle during DVD multi-angle scene playback.

16 CLEAR
Press to clear a numeric entry.

17 ENTER
Use to select menu options, etc.

18 MENU
Press to display a DVD disc menu, or the Disc Navigator if a VR format DVD-RW, CD, Video CD , MP3, WMA or JPEG disc is loaded.

19 RETURN
Press to return to a previous menu screen.

20 ►► and I►/II►
Use for forward slow motion playback, frame advance and forward scanning.

21 ►►I
Press to jump to the next chapter or track.

22 ■
Press to stop the disc (you can resume playback by pressing ► (play)).

23 DISPLAY
Press to display information about the disc playing.

24 ZOOM
Press to change the zoom level.

■ Jigs list

Name	Jig No.	Remarks
Service Remote Control Unit	GGF1381	diagnosis
DVD Test Disc (DVD-Video)	GGV1025	Check of DVD-Video
CD Test Disc	STD-905	Check of CD

■ Lubricants and Glues list

Name	Lubricants and Glues No.	Remark
Dyefree	GEM1036 (ME-913A)	Refer to "2.3 05 DVD MECHA SECTION"
Grease	GYA1001 (PN-397)	Refer to "2.3 05 DVD MECHA SECTION"
Grease	GEM1018 (G-478B)	Refer to "2.3 05 DVD MECHA SECTION"

■ Cleaning

• Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools	Remark
Pickup leneses	Cleaning liquid : GEM1004	Refer to "2.3 05 DVD MECHA SECTION" , "7.2 DISASSEMBLY SECTION".
	Cleaning paper : GED-008	